SL-II MC327/1
Time: 06:01 CDT, 7:11:01 GET
5/31/73

PAO This is Skylab Control; 11:01 Greenwich mean time. Skylab space station less than a minute now from acquisition at the Carnarvon-Australia Tracking Station, at which is scheduled a wakeup call from CAP COM Bob Crippen. We'll stand by to listen to the call.

CC Good morning, Skylab. We're AOS over Carnarvon for the next five minutes.

SC Good morning, Crip. Roger.

CC Roger. You sound awful cheerful this morning.

SC Yeah, we got a good night's sleep last night, and I think we're just getting more used to sleeping up here.

CC Very good.

SC Everybody else has tromped out. I've got to see where they are.

SC Everybody is awake, and Joe is just angling himself from his bunny cap.

CC Rog. You might be interested to know that we managed to get data from the MA last night.

SC Very good.

SC Yeah, very good, Crip.

SC Uh - you with me?

CC Rog.

SC Okay. I woke up about 3 hours into the sleep period, checked the brain cap, and I had good contact on the (garble) two and the back two electrodes - to the middle two I didn't have any lights. I just snuck into bed again and went back to sleep. The sleep cap looked completely normal last night when I broke it out of the dome locker; so apparently that bunch in the dome locker didn't get heat struck at all.

CC Roger. Were those two lights still out this morning?

SC No, they're on now.

CC Okay.

SC What he really did was wake up 3 hours into the sleep period and go slip it on Paul's head.

CC I'm sure Paul would appreciate that.

SC Jack come up with anything new over the night working on the power profile?

CC No, I'm afraid not. We're still looking at it. There is some concern about we may have to eliminate some activities today, but we still haven't fully evaluated that.

SC Okay.

SC Back to bed.

CC You don't get your day off until tomorrow.

SC Good.

SC Is tomorrow really the day off?
CC That's affirm. Don't you think you've earned it?
SC Yeah, we were just waiting for you to tell us.
CC Sorry. I thought you had that word already.
SC Well, we weren't really sure, but we'd been discussing the fact that we took the opportunity, I think, to get some fairly good photography with the Hasselblad and everything, and I hope we have some good weather tomorrow. I noticed that the weather seemed to get worse, generally, around the world for the last 3 or 4 days, as opposed to when we first took off.
CC Roger. We'll take that as the morning weather forecast.
CC Pete, I guess on the power thing - are you aware that we're not planning on doing EREP today?
SC Yeah, Crip. We have a - we got an outline of the flight plan last night (garble) you said that it was going up, but I think it's - was the M131 that Paul brought to (garble). There's troubleshooting and Pete's doing a lot of ATM while those guys catch up on the M131. That's basically it, isn't it?
CC Roger. Affirm. Just wasn't sure whether you had gotten hold of it or not. We're going to have LOS in about 30 seconds. We'll pick you up again at Honeysuckle at 11:14, at 11:14.
SC Okay, thank you.
CC Skylab, Houston.
CC Skylab, Houston. We're AOS over Honeysuckle for the next - oh, about 5 minutes.
SC Okay.
CC My correction on that. It's going to be a short one - it's about ½ minute.
SC Okay.
CC Okay, Skylab, we'll pick you up again at Texas at 11:44 - 11:44, and we're short two teleprinter pads - sort of innocuous - no big hurry. We'll probably be sending those up over the States in case you're running up to (garble). And if you thought you had lots of paper yesterday, wait until you see today.
PAO This is Skylab Control; loss of signal through Honeysuckle Tracking Station. Twenty-seven minutes to Texas and Mila, Bermuda, Newfoundland, on across to Madrid, for a stateside and European pass. Spacecraft Communicator Bob

SL-II MC327/3
Time: 06:01 CDT, 7:11:01 GET
5/31/73

Crippen mentioned to the crew because of the reduced power supply available to Skylab, the earth resources experiment package or EREP pass for today hus been scrubbed. And some conversation was devoted to the fact that tomorrow is the crew's day off. Everybody should have a day off. At 11:17 Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-328/1
Time: 06:43 CDT, 7:11:43 GET
5/31/73

PAO This is Skylab Control less than a minute away from acquisition through the Texas Station for the state-side pass. Cross through from Texas and up over the Appalachians, New England, coming out around Newfoundland. Currently, the charger battery regulator modules, CBRMs, as they're known in acronyms, - 16 of the 18 on the telescope mount power syrtem are on line. Their average rate of charge, or state of charge, is 92.7 percent of capacity. One of the CBRMs was lost after launch before the crew rendezvoused with Skylab. The other was lost yesterday. And they've been unable to bring it back on line. At this time they modified - somewhat modified the Flight Plan. It's being evolved considering the slightly reduced power situation. Slightly reduced over what it was yesterday, that is. Not considering the total loss thus far of the workshop power generating system. We're AOS with the crew. We'll stand by for the conversation.

CC Skylab, Houston. We're 1 minute to LOS. We'll have you again over Madrid at 12:05, 12:05. We have uplinked all the teleprinter pads at this time, and we will be doing a data recorder dump over Madrid.

SC Roger. (garble), Houston. Roger. Crip, there's a message on the tape recorder concerning a CO2 measurement this morning which didn't appear to work too well. Also I'm just briefed myself. I notice you got me scheduled for water system maintenance. It fixed itself, and we're going to let sleeping dogs lie for now.

CC Okay. Understand. If fixed itself. What was that measurement that didn't work quite right?

SC The CO2 thing. You know that little black box?

CC Okay. Rog.

SC I get the same readings all over, and they're high.

END OF TAPE

SL-II MC-329/1
Time: 07:03 CDT, 07:12:03 GET
Date: 5-30-73

CC Skylab, Houston. We're AOS over Madrid for the next 9 minutes.
SC Roger.
CC And, Paul, if you get a chance, we'd like to verify if you deployed ED76 yesterday.
SC That's verified.
CC Okay. Roger. And if Pete's listening - we - you probably noticed that we sent him a CBRM troubleshooting procedure. That was message number 0731, which looked almost like the one that he did - that somebody performed yesterday. We'd like you to run through that one again today at the scheduled time, and just wanted to reverify that we'd like to make sure that it's done in the daylight.
SC Okay, I'll tell them.
SC I got it.
SC I'll tell you, Crip, when I get back and leap out of the bed in the morning, straight toward the ceiling, and grab my pants and dive back into them before I hit the overhead, and I really find myself lying flat on the floor, and then I'm going to know I'm back.
CC Rog. You're going to have a hard time explaining that one to Jane.
CC Skylab, I was still waiting to get the morning news for you, which I haven't received yet. But you might be interested to know that Gordon Johncock won the Indi yesterday, and at only 132 laps, that they had to call it after rain.
SC Understand. And, Crip, I understand that there are a few guys over at our office that don't believe that we can run around the water wing lockers; so we're willing to take a small wager from any of them that really don't believe that. Furthermore, to sweeten the pot, last night in our training session done after 03:00, I might add not on company time, we also added a little fling to it, where we now can run around the water ring lockers into front flip and back flip. So if they want to sweeten the pot before we show you this publicly on TV, we're willing to take any wagers.
CC I'll see how many takers you have.
CC Skylab, Houston. I've got some sad news in this morning's paper that the blob is dead. I'm sure that Joe will be glad to hear that. And they killed it with nicotine.
SC (Crew laughing)
SC I'd like to be the blob.
CC Getting to feel it now, huh?
PAO Flight just informed me that they picked up some residual blob out of Lake Houston, and what the lady has in her aquarium was a shark. (Gerble) will be overgrown with it by the time you guys get back.

SL-II MC-329/2
Time: 07:03 CDT, 07:12:03 GET
Date: 5-30-73

SC You guys are all going nuts down there.
SC That's what I was thinking.
SC We're going nuts up here too; the CDR thinks he can slide.
CC I have been getting that impression. You might be happy to note that the Astro's won a ball game yesterday, 4 to 1.
SC Hurray½ Are the Cubs in first place?
CC Stand by 1.
CC Rog, Paul, if that question was were the Cubs in first place, they still are.
SC Super
SC That wasn't for me. That's for Joe.
CC Sorry - sorry about that.
SC Hey, Crip, - I had a problem with our Hasselblad - HDC 02. It's blown 2 fuses now. You got any remedy down there before I just start replacing fuses?
CC Roger. That's a new one on me; I hadn't heard about the problem. Got - the HDC02 has blown 2 fuses, huh? Okay, we'll look into it. We're about 30 seconds from LOS; we'll have you again at Honeysuckle at 12:51.
SC Okay.
PAO This is Skylab Control. Loss of signal through Madrid Tracking Station. Skylab space station crossing the North Africa coast, just west of Alexandria, Egypt. We'll cross down over the Nile valley. Just west of the Red Sea, on revolution 243; next station - Honeysuckle in 36 minutes. To recap again the current situation on the ATM power system - 16 out of total 18 charger battery regulator modules, CBRM's, are on line and producing power at this time. One of the two that are off-line somehow failed after launch, and the other one was among 4 that went off-line yesterday and did not come back on during the evening. During the - just prior to acquisition on this stateside pass, the surgeon reported that the crew - each of the crew men appeared to have gotten about 6 hours good sleep. This will be verified later in the day with the crew status report. This is the surgeon's educated guess as to the sleep status of the crew. Just before LOS Madrid, it was reported that one of the Hasselblad still-cameras on board kept popping fuses; it had blown 2 fuses so far. So at this time the camera people on the ground are trying to sort out why this should happen and will come up with a fix to pass to the crew. 33 minutes to Honeysuckle. At 12:17 Greenwich mean time, Skylab Control.

END OF TAPE

SL-II MC-330/1
Time: 07:49 CDT, 7:12:49 GRT
5/31/73

PAO This is Skylab Control 12:50 Greenwich mean time. Minute and half, theoretical time to acquisition at the Honeysuckle tracking station midway through revolution 243. Fairly short pass over Honeysuckle, then there'll be long gap till the next stateside pass.

CC Skylab, Houston we're AOS over Honeysuckle for the next 1 and 1/2 minutes.

CDR Roger, Houston.

CC Roger, and a - Pete, if possible we would like to get a reading off the frame remaining counters off the ATM, this morning.

CDR Okay, I'm going to put them on B channel.

CDR You with me, Crip?

CC Affirm.

CC We're going to have LOS, here in about 30 seconds, we'll have you again at Goldstone, at a 13:20, at 1320.

CDR Okay. Hey, JOP was 14839-82A-182-82B-1455-52 was 7461 and 54 was 4995.

CC Thank you.

PAO This is Skylab Control, loss of signal now through Honeysuckle tracking station. Another 25 minutes approximately to Goldstone. During the up coming stateside pass, the telescope mount television will downlink some real time, solar TV images. During the up coming ATM pass over Honeysuckle, the main topic of conversation was getting readouts on - from on board, of frames remaining in the ATM cameras. 24 minutes until the next stateside pass. At 12:56 Greenwich mean time, Skylab Control.

END OF TAPE

SL-II MC-331/1
Time: 08:16 CDT, 7:13:16 GMT
5/31/73

PAO This is Skylab Control, 13:16 Greenwich mean time. Two and a half minutes away from stateside pass, acquistion by Goldstone. On across from just south of San Diego coming out over the Great Lakes and across Nova Scotia, Newfoundland. There is a - an ATM or Apollo telescope mount solar astronomy pass, which will be underway during this stateside pass with Pete Conrad operating the ATM console. Meanwhile Joe Kerwin will be involved with calibration of the M172 experiment the body mass measuring device. Pilot Paul Weitz, after operating the television system for the ATM pass, will go on into malfunction checkout of the ultraviolet stellar astronomy S019 device which apparently has a hung up gear drive on the mirror system. This is a device that is extended out through the antisolar airlock, scientific airlock. Later on in the day Kerwin and Weitz will alternate between being subject and observer on the M131 experiment. Human vestibular function, which measures the effects of motion upon the persons equilibrium in zero g Should be coming up with acquisition shortly, across the stateside pass. Apparently the charger batter - battery regulator module number 3 is off line permanently as it appears now. No further troubleshooting is planned. All steps have been followed. In trying to isolate the problem from the ground - We'll be getting a picture, not of the solar image, but of Pete Conrad at ATM console

CC Skylab, Houston, AOS over - (garble)

SC (garble)

SC Hello, Houston. Are you there?

CC Yeah, you were just cut out by a lot of noise. You'll have to say again anything you said.

CDR Okay Houston. The TV downlink and TV 13 are in conflict with one another. I'm ready to give you TV downlink. Are you ready to receive?

CC We got it. We - we have a good TV picture, Pete, and we ready - -

CDR Yeah, I know; but you want ATM TV, isn't that right?

CC That's affirmative.

CDR Okay, coming at you.

CC SPT, Houston.

CDR Go ahead.

CC Wanted the momentum dump inhibited at 12:00 and reenabled at 14:21.

CDR Yeah, I know. It was in the middle of the postsleep. I didn't catch it. Joe's not doing doing the one - As soon as he's ready to go, I'll inhibit.

CC Copy.

SPT Assuming an answer right away, is that a new streamer on the east limb there, Houston?

CC Say again.

SPT Okay. When the coronagraph people have a chance, it looks like as best we remember it new corona streamer on the east

SPT limb. Is it or is it not?
CC Stand by.
PLT It's at your convenience Bill, there is no rush on it.
SC Houston, are you getting live TV now?
CC That's affirmative, good.
SC And you're also keeping the VTR running, huh?
CC That's affirm.
PLT Hello, Houston; Skylab.
CC Go, Skylab.
PLT Okay, previously when I run - the PLT has run JOP 6, I've noticed that the S052 operate light will on occasio just go out and stay out for a few seconds on the order of 5 to 10 and then come back on. I have not caught it enough to give you goo time hack on it nor have I been able to keep track to see if it is associated with the end of a frame exposure. One of you guys look this pass and see if it does it again, would you, please?
CC Copy, Wilco.
CDR Houston, CDR.
CC Go CDR.
CDR Roger. Is the star tracker ... use the star tracker today or not?
CC CDR, Houston.
CC CDR, Houston.
CDR Go ahead.
CC Don't enable - Do not enable the star tracker until we have had the S019 results. Also, Pete, if you get a momen we did not get the frames remaining on S056. At your convenience.

END OF TAPE

SL-II MC-332/1
Time: 08:33 CDT, 7:13:53 GET
5/31/73

SC It's reading 5377 right now and I just ran a patrol normal so subtract the patrol verbal from that.

CC Copy.

CC Skylab, Houston; LOS in 1 minute. We'll have you -

SC Say again, Houston.

CC LOS in 1 minute, we'll have you at Madrid at 13:42.

SC Okay.

PAO This is Skylab Control, 13:38 Greenwich mean time. Brief gap across here from stateside pass into Madrid and Canary coverage. Current status of Skylab Mission and accomplishments of yesterday are spelled out in a report from the Skylab Program Office that's issued each morning. The summary of the mission status and accomplishments and shortcomings as well. In the preface to the report which reads as follows. Both attended and unattended operations of the Apollo telescope mount were conducted. The first 2 daylight cycles were not run due to power limitations that made it necessary to turn off the experiment pointing control system. Charger battery regulator modules known in the trade as CBRM's numbers 3 and 15 are inoperative. The first Earth Resources experiment package pass of the mission was conducted and 15 of the 85 tasks site objectives were met. Problems with the S190A and S191 sensors were experienced during the pass. The M131 experiment run which is the human vestibular function experiment scheduled again today was aborted because of the orbital workshop electrical power problem. Valid data were received for only 1 hour of the entire night on M133. Internal workshop, internal orbital workshop internal temperatures continued to decrease. The average interior temperature was 86.8 Fahrenheit on orbit 220 and 83.5 on orbit 7. The orbital workshop gas temperature decreased from 86.9 degrees to 81.9 over the same period. Approximately 47.5 percent of usable thruster attidude control system impulse remains. During the day yesterday, the command service module probe and drogue were checked out by the crew going through a malfunction procedures and checkout on the capture latches and the crew determined that they were indeed satisfactory and they will be used in the normal manner for undocking. During the just completed stateside pass we had television downlink from the space station showing Commander Pete Conrad at work at the ATM console as well as a few images of the Sun through the various ATM television cameras. The corona as well as the full Sun image showing the sunspots. Other things that turn scientists on. About a half minute now to Madrid acquisition. The Earth Resources package pass that had been scheduled for today has been deleted from today's modified flight plan. However, otherwise it's a rather busy day for the crew.

END OF TAPE

PAO Should have acquisition for 8 minutes through Madrid. And about a like period through Canary Islands Tracking Station, overlapping coverage. Skylab Control, standing by at 13:42, Greenwich mean time.

CC Skylab, Houston. AOS for 8 minutes.

SC Roger, Houston.

CC Houston, how about giving us the words on that Hasselblad 3. I just took some pretty nice pictures of the St. Lawrence and Nova Scotia. What do you want us to do, change the (garble), change the magazine, or change the camera plotting.

CC Yeah. We're fixing to give you a procedure on that. Also, that is a new stream of it coming up.

SC Okay. Thank you.

SC Houston, CDR.

CC Go, CDR.

SC On the last 82-alfa exposure, (garble) 3 minute and 20 seconds. My Mickey Mouse watch, I just set it, and it is a 4 minute and 26 second exposure.

CC Copy.

SC And ah - I'd really like them to look at using the event timer. You just have to bring it up and down, because I think we're goofing a lot of pictures that way. Because we have trained to use that event timer and we'll fix and get it right the other way because we're going to keep doing things like I just did using my little wrist watch. And if we can use the event timer for all those shutdowns we'll be in a lot better shape. I don't have much power, of course. How about having them look at that.

CC We copy and are working it, Pete.

SC Thank you.

CC PLT, Houston.

SC Go ahead.

CC On the cameras. We want you to obtain 01 from F523 install batteries - -

SC Wait a minute, Bill. Wait a minute.

CC Copy.

CC CDR, Houston. We need the DUMP INHIBIT.

SC Okay.

SC (Garble), Dr. Thornton.

CC Say again, didn't copy that one.

SC The PLT says he's surprised you're concerned with that one, Dr. Thornton.

CC (Laughter) As a matter of fact, someone jogged memory.

SC Okay. Listen, Doc, did you understand what I told you about what happened to the cal? It's not on the bottom of the thing which I had tightened down with my fingers as tight as I could. It backed off at zero-g and I think that plate was sloshing a little bit.

CC Yeah. We copied that, Pete.
SC Okay. Go ahead with the dope on the camera, Bill.
CC Okay. Obtain 01 from F523, install batteries, remove the mag from 02, verify that the film is not jammed by manual advancing. If it's sticky or you have any problems advancing, obtain new mag from F510 Charlie. Install the new mag on 01. Ensure mag signal is white, and cycle the camera to verify operation.
SC Okay. I got that. Now, you said install new magazine in 01, but if the old one appears to not be jammed and can be advanced manually, you want to put it on 01. Right.
CC That's affirmative. Also, switch lenses if you have to change the magazine. And the final configuration, then, on camera 2 would be 100 millimeters, and camera 1 would be 80 millimeters. That's only in the event that you swap magazines.
SC Wait. I was under the impression that we're going to swap the camera 01, anyway.
CC We want you to swap the lenses anyway.
SC Those were given up by - Given up by camera 2. I'll go look. If I have any more questions, I'll call you.
CC We copy.
CC PTL, we've got some power conservation changes we'd like you to make here, when possible, if you can copy them before we go LOS.
SC Wait one.
SC Go ahead.
CC Okay. On first item. AM fans - circulation fans, 1 goes off, that's panel AM203.
SC Yeah, I know where they are, go ahead.
CC Okay. 1, 2, and 3 off on 203. On the thermal control system duct 1, fans on bus 1, circuit breakers on OWS panel 614, 1 2 3 and 4 open, the circuit breakers.
SC You said you wanted power down duct 1?
CC That's affirm.
SC Okay.
CC And we'll be LOS in about 20 minutes, we'll have you Honeysuckle at 14:27.
SC Okay. I'm going to turn off the airlock fans and the duct 1 fans.
CC That's affirm.
PAO This is Skylab Control; loss of signal as the space station crosses over Central Africa. Out of range from Madrid and Canary Island tracking stations. Early in revolution number 244, just prior to LOS, CAP COM, spacecraft communicator, Bill Thornton voiced up to the crew a few changes to conserve electrical power on the space station by turning off some of the fans in the airlock module and one of the thermal control ducts, as a means of conserving power. Next station Honeysuckle in 34 minutes. At 13:52 Greenwich mean time, Skylab Control.

END OF TAPE

SL-II MC-334/1
Time: 09:10 CDT, 7:14:10 GET
5/31/73

PAO This is Skylab Control, 14:10 Greenwich mean time. Sixteen minutes away from next station pass through Honeysuckle. At 10:00 a.m. central daylight time, in the Johnson Space Center News Room - small briefing room - there we'll be a news briefing by four of the telescope mount principal investigators. This briefing will not be carried on the broadcast line inasmuch as - there'll be a stateside pass underway about that time. Participants in the briefing will be William C. Keithly, who is Marshall's Space Flight Center's Experiment Manager. The Principal Investigators taking part in the briefing are Dr. Robert McQueen, for S052; Dr. Ed Reeves, S055; Dr. Richard Towsey, S082; and Dr. Giuseppe Vienna, S054 - 14:12 Greenwich mean time. Reminder again, 10:00 a.m. central daylight time - telescope mount Principal Investigators briefing, small briefing room Houston News Center. This is Skylab Control.

END OF TAPE

SL-[illegible] MC-[illegible]
Time: 09:24 CDT, 14:24 GMT
5/31/73

PAO This is Skylab Control, 14:25 Greenwich mean time. Two minutes out of Honeysuckle, Australia, tracking station. Almost 10 minutes across that station. Reminder again to newsmen in the Houston News Center, 10:00 a.m. central daylight time, Principal Investigators on the ATM experiments will brief on the data received to date. Participants: William C. Keithly, Marshall Space Flight Experiment Manager; four ATM principle investigators; namely, Dr. Robert McQueen, on S052; Dr. Ed Reeves, S055; Dr. Richard Towsey, S082; and Dr. Giuseppe Vienna, S054. Standing by for Honeysuckle acquisition. Skylab Control at 14:26 GMT.

CC Skylab, Houston, AOS for 9 minutes.
CC Skylab, Houston, AOS for 9 minutes.
SC Roger.
CC PLT, Houston.
PLT Go ahead.
CC How is your S019 malfunction procedure going, Paul?
SC Ah, about 4 different reasons I'm just now starting it.
CC Copy.
SC Okay, I'm down to the point I've got it - I've got it extended out. All those gears are locked up solid. There's - You absolutely cannot move any of them ... Also in the process of looking at it and checking out yesterday, we're sorry to say that we touched the mirror in one place - Let me tell you where it is. As I look at the mirror - extended - it's out beyond the tilt divit point and it's about an inch to an inch and a half in from the edge. Do you want us to try to clean it, or just leave it go?
CC Just leave it go, Paul. There's no problem there.
SPT Okay.
CC LOS in 1 minute. Hawaii at 14:47.
PAO This is Skylab Control. Apparently we have had loss of signal through Honeysuckle. Ten minutes now to Hawaii acquisition. Ground track will - appears to pass directly over th main island of Hawaii. Toward the end of the Honeysuckle pass, pilot Paul Weitz reported he was running slightly behind in the malfunction troubleshooting on the S019 ultraviolet stella astrono instrument, which apparently hung up in the gear drive that moves the articulated mirror yesterday. This instrument is extended through the scientific airlock. The other remaining scientific on the antisolar side of the workshop. This particular experiment - Principal Investigator is scientist astronaut Dr. Carl Henise who has been in and out of the control room quite frequently, trying to assist the ground in ways of getting his instrument to perform as it should. A third reminder, at 10 a.m. central daylight time, Principal Investigators experiment briefing on the ATM data received - receipt of data so far in the small briefing room, Houston news center. Returning again in 8 minutes for the Hawaii and stateside pass at 14:39 Zulu Skylab Control.

END OF TAPE

PAO This is Skylab Control; 14:46 Greenwich mean time. Coming up on acquisition at Hawaii Tracking Station, waiting confirmation of data and voice. We have AOS now.

CC Skylab, Houston. AOS for 9 minutes.

SC Roger; Houston. We're S019.

CC Go.

SC Just got the outer cover off. It says note the position of the white spacer. It looked normal to me, it was concentric about the axis of rotation of the handle, and was laying immediately underneath the knob. As far as I could tell, it was normal. Now, if this doesn't work yet as a last resort, the inner gear - the gear that attaches to the knob on the inside of the tape, has a shaft - you know, that sticks up above the gear itself. How about laying on there with a pair of pliers and trying to torque it to break it loose. Is that a good idea or not so good idea?

CC Stand by a half.

SC Okay.

CC Hey, Paul. They don't want you to torque that with pliers unless there - unless you can find something loose to manually do it why don't torque it with pliers.

SC All right.

CC CDR, Houston.

SC Yeah, go ahead.

CC Pete, there are about 3 items here for you to copy.

SC Wait one.

SC Go ahead.

CC Pete, we can do this ground command on experiment pointing mode if you'd like for us to do that.

SC I'm not following you. You understand the checklist just goes to FY. You want it in experiment pointing?

CC We want it in experiment pointing for unattended operations, Pete.

SC Okay. I'm looking at it. I think it's the panel on my checklist; says go S[illegible]R INITIAL and I'll put it to experiment pointing. We either going to change the checklist for - got to put it on the pad when you come up.

CC Copy and concur, Pete.

SC Go ahead with the next one.

CC Okay. On the recorder, AUDIO on the 204 panel. I want that in the B position, Baker position. We want you to power down the VTR, turn it off. We'll give you a call to power it up prior to S052 this afternoon. We'll dump that tomorrow.

SC The VTR is powered down at this time and did we have something else kicking for us?

SC Go ahead.
CC Just a minute.
SC And also the voice recorder has been in VTR all this time since yesterday after KREP.
CC Pete, we copy that last. If your main power is utill ON, we want it OFF. That is if it's in STANDBY because that's using some power.
SC Okay. I'm with you now. All right.
CC LOS in about 30 seconds here. Goldstone at 14:59.
SC Roger.
SC And then at 14:59 they want me to come back here and do this (garble).

END OF TAPE

SL-II MC-337/1
Time: 09:58 CDT, 7:14:58 GET
5/31/73

CC Skylab, Houston, AOS for 7 minutes.
SC Houston, CDR.
CC Go CDR.
SC I'm ready to do your EPRM thing. Be advised to support scheduling though. You realize that I'm holding 10 EREP tape cleaning swabs in my hand and a few other things, and I'd appreciate it if you guys would look at that and the scheduling a little bit closer. About 2 or 3 times now you got us doing things where we got 89 pieces of gear out and you got us running all over the spacecraft. I think you got enough guys down there to think out the flight plan a little bit better than you're doing. Now I'll go ahead and do this procedure for you.
CC Pete, go ahead and do your EREP at this time if that is the problem and we copy and understand.
SC It's not a problem now. I had my little clock buzzer in my pocket, but I just wanted you to know where I was - what I was in the middle of doing.
CC We copy, Pete.
SC You can't raise Ron's checklist and stuff now. We'll wind up holding 6 or 8 things in our hands and running all around see. You got to think about that a little.
CC Copy, Pete. And we'll try to do better.
SC Are you there Houston?
CC Go.
SC Hello Houston, you there?
CC That's affirmative. Go Paul.
SC S019 is fixed. I ain't got it back together yet but at least it's free.
CC Copy it's fixed, and you're putting it back together. Congratulations, you just made him happy.
SC And the problem was a little flange referred to in step 9 was bearing down on that top-most gear that kind of little one. It didn't seem to be bearing down hard, I don't really see how it froze it up so solid. But I mashed that flange down flat on the inside and I'll start trying to put it back together. It's surprising, I think I haven't lost a screw yet.
CC We copy. Thank you.
SC Okay, Houston. How's the EBRM 15 look to you?
CC Stand by half, Pete.
CC Pete we see no SAS or charge current. Go ahead and complete the five cycles however, Pete.
SC Okay, going into the five cycles.
SC Houston, you care if I have another short word on S019?

SL-II MC-337/2
Time: 09:58 CDT, 7:14:58 GET
5/31/73

CC Sorry Paul. What about the cover?
SC Can I tell you one more short word? I think that maybe when I was binding up with that outmost little gear in that outside train there, there's a collar underneath it which is held in place with a Phillips screw. Now I think that that little metal fairing, or whatever it is, that goes on the inside of that cavity was bent in such that the Phillips screw head which projects out beyond the edge of the gear itself was wedged solid right up against that metal plate.
CC Yeah, we copy, Paul.
SC Looks like no joy on EPRM 15.
CC We copy, Pete. And we agree.
SC Say how's the RBM 3 now?
CC Stand by half.
CC Pete the REG is still off on that because we plan to do some more troubleshooting on it.
SC Roger.
CC We're going to LOS here in about 20 seconds. We'll have you again in about 3 minutes.

END OF TAPE

SL-1I MC338/1
Time: 10:07 CDT, 7:15:07 GET
5/31/73

CC Skylab, Houston. AOS for 8 minutes.
SC Roger, Houston. Give my congratulations to whoever wrote those SO19 procedures, will you please? They were clear, explicit, and easy to follow.
CC Will do.
SC Hey, just for my information, how about when you find out, Bill, let me know who gets that well done. Will you please?
CC Copy.
CC Skylab, Houston. Be advised that we are going to dump the recorder over Canary at 15:19.
SC We're advised.
CC Skylab, LOS in one minute. We'll have you at Canary at 15:19.
SC Roger, Houston. The SPT, for your good time-lining information, has just now completed the M172 CAL. And it's about an hour and 15 minutes behind.
CC We copy, Pete.
CC If you read us, we didn't copy that.

END OF TAPE

SL-1I MC-339/1
Time: 10:19 CDT, 7:15:19 GET
5/31/73

PAO This is Skylab Control. We have a brief gap here between LOS stateside and Canary acquisition. A few seconds from now, we'll leave the line up. Paul Weitz has successfully repaire', the S019 UV, ultraviolet stellar astronomy instrument. Commented that he doesn't believe he's lost a single screw. He congratulated the ground for writing very clear and concise malfunction procedures, which were teleprinted up to the space station for his use in trouble-shooting, dismantling, finding the nature of the hangup in the gear mechanism that moves the articulated mirror. And now he's in the process of reassembling the instrument. Science Pilot, Joe Kerwin, toward the end of the stateside pass, mentioned that he had just completed the M172 calibration. We're AOS at Canaries. We'll stay up through Canaries and Ascension.

SC (Garble) Somebody, namely me, inadvertantly pushed the transmit button. Houston, forget it.

CC Copy.

SC Okay. And let me say about the M172 CAL. It's obvious how long it took. I hope we don't have to do it again for 3 weeks or so. I used a lot of gray tape which I'll be returning to you so you can weigh it, cause it's in many small pieces. And with the aid of the gray tape, I hope to secure the batteries in the T003 and the food tray lifts, (garble) which rattle a lot. And the whole thing still shakes and rattles a little bit at the high weights. But most of the data points look good.

CC Okay, Joe. Appreciate that. Joe, is there any possibility that you could, as time allows, weigh that gray tape on the M074 on the SMMD and send that down? That would allow us to start getting you some 172 data back up.

SC Well, Bill, I don't know. They're awfully small pieces. That's why I proposed taking them home. Also I'm on an hour and a half down on the time line right now. I just don't know when I'll get to it.

CC We copy that, Joe. If it were possible to, weigh any of the items, or either get an estimate of what they might weigh. Because there's a good bit of pressure to try to get a 172 CAL down here.

SC Houston, I haven't really looked at my schedule lately. I assume that when I've done reassembling S019, you want me to go ahead and reinstall it in the airlock, right?

CC Paul, we'd like for you to do that in the - at approximately 17:50, when you're doing the water maintenance.

SC Okay. Is that on my Flight Plan?

CC That's affirm.

SC Oh, okay. I hadn't read that far ahead. I'm still trying to catch up. Sorry.
CC Copy.
SC Houston, CDR. The S009 was initiated at 15:22:03.
CC We copy.
SC Hi there, Houston; Skylab. Are you still there?
CC We're still here. GO.
SC Okay. The maximum readings, they - they - Two extremes on the tilt arm now are 358.3 and 33.7.
CC Copy.
SC Just as I was putting in the last (garble) with this little ring under it, patting myself on the back for not losing a single one of those, I slipped off, and I'm missing a screw and a spring now. But I'll think they'll eventually show up on that great collector in the dome, our point of entering screen.
CC (Laughter). We copy Paul.
CC CDR, Houston.
CC Skylab, LOS in 1 minute. Carnarvon at 16:02.
PAO Skylab Control. Loss of signal through the Ascension Tracking Station. 24 minutes to Carnarvon, Australia. Skylab crewman, Paul Weitz, has successfully repaired the S019, ultraviolet stellar astronomy instrument. And reinstallation of that instrument in the scientific airlock will take place at around 18:00 Greenwich mean time, about 3 hours from now. Presently, the Science Pilot and Pilot are scheduled for a run of the M131, Human Vestibular Function Experiment, where one serves as the subject, while the other observes, and then they flip flop. Then following that, both of them go into a meal period, around 16:30, about an hour from now. Regulator battery modules 3 and 15 are still off line at this time, 15 having been off since early in the mission. Three has not come back on line since the drop-out yesterday, following the EREP pass. Science Pilot, Joe Kerwin, in the last hour has completed calibration of the M172 experiment, body mass measuring device. 23 minutes now to acquisition at Carnarvon, Australia, Tracking Station. At 15:38 Greenwich mean time, Skylab Control.

END OF TAPE

SL-II MC340/1
Time: 11:00 CDT, 7:16:00 GET
5/31/73

PAO This is Skylab Control; 16:01 Greenwich mean time, about a minute - slightly over a minute to acquisition to the Carnarvon, Australia, tracking station. Very brief low elevation angle pass at Carnarvon, crossing on over into overlapping Honeysuckle coverage. Average temperatures today in the Skylab workshop have been running around 82 degrees Fahrenheit. Currently the space station is in an orbit measuring 232.7 nautical miles at perigee, at 240.6 nautical at apogee. Period of orbit; 1 hour 33 minutes 18 seconds. Should be getting a call to the crew now from Spacecraft Communicator Bill Thornton. Skylab Control standing by.

CC Skylab, Houston. AOS here for about 10 minutes with a keyhole.

SC You called, Houston.

CC Go Skylab.

SC I said did you call, Houston?

CC Just called an AOS and CDR on the timer go ahead and use the event timer as you suggested.

SC Okay, thank you.

CC CDR, Houston.

SC Go ahead, Houston.

CC Pete, your cue card was correct. You leave it in SOLAR INERTIAL and we'll command it if we go into unattended OPS and we accept responsibility for that one.

SC Okay, Houston. Roger. Listen when I have time and I don't right now because we're GARBLE power curve, can I sometime on B channel - I'm going to send down to the flight director why it is we run into these problems when you schedule the way we do. I'm not sure you really understand what our problem is.

CC Yeah, Pete. We copy that. We'd be interested in hearing the comments and -

CC Easily - and I'm going to try to explain by using today as a good example of how not to schedule. Okay.

CC We copy.

SC And I think I can do it in a constructive manner that will make more sense than us getting snapping which we don't mean to do but we just get our hands so full. And it's always the times when we get them the fullest that you call. So let me send that down tonight on B channel - get a little understanding of what some of the problems are. And the other guys are doing M131 right now. (Garble) through lunch so I can get back to the ATM on time. They're down some and I'm holding my own but just barely.

CC CDR we copied your last transmission before the keyhole. We'll be interested in hearing what you have to say and we also hang our heads for the day.

SL-II MCC40/2
Time: 11:00 CDT, 7:16:00 GMT
5/31/73

CC Skylab, we'll be LOS in about 30 seconds. We'll have you down in Hawaii at 16:25.

PAO This is Skylab Control. Loss of signal through the Honeysuckle tracking station. Twelve minutes to acquisition in Hawaii. During that pass there was some exchange between Spacecraft Communicator, Bill Thornton and Skylab Commander Pete Conrad on how crew activities have been scheduled. And Pete said that he would put his comments on how he thought the scheduling could be better handled on channel B tape recorder which will be dumped during the evening. Said they were constructive comments. He had complained earlier that frequently because of the density of the flight plan uplinked on the teleprinter that frequently the crewmen had several items in their hands they were trying to move from one place to another and they would get behind the time line and the ground would call them in to perform some other task. Ten minutes to Hawaii. The central 10 by 20 foot scribing plot board in the control room seems to be on the fritz. The spacecraft position indicator which is projected rear screen tends to jump all over the world tracking chart. Maintenance people are running tests on it at this time trying to remove the hangup. Back in 9 minutes with the Hawaii pass. At 16:15 Greenwich mean time, Skylab Control.

END OF TAPE

SL-II MC-341/1
Time: 11:23 CDT, 7:16:23 GET
5/31/73

PAO This is Skylab Control; 16:23 Greenwich mean time. About a minute out of Hawaii. Short gap across into the States. We'll leave the circuit up for both Hawaii and Stateside. Standing by at 16:24, Skylab Control.

CC Skylab, Houston. AOS for 9 minutes.

SC Roger.

CC Skylab, we'll be LOS in about 45 seconds. Goldstone at 16:37.

SC Roger.

PAO This is Skylab Control; LOS Hawaii. As the space station went over the hill from that tracking station, we're 2 minutes and a half away from acquisition at Goldstone, for a fairly solid stateside pass. Coming up shortly in the Houston News Center - a play back, starting at 12:00 noon central daylight time, of onboard television, lasting 28 minutes, reaching back to activation of the space station over the past several days. And then following at 1:00 p.m., central daylight time, is a play back of ATM television from earlier this morning. Science Pilot Joe Kerwin and Pilot Paul Weitz scheduled for an eat period at this time. Immediately after the vestibular function experiment, which I guess is preferable to doing that after eating. At 16:36 standing by for stateside acquisition at Goldstone; Skylab Control.

END OF TAPE

SL-II MC342/1
Time: 11:36 CDT, 7:16:36 GMT
5/31/73

CC Skylab, Houston. AOS for 4 minutes.
SC Roger.
CC Skylab, you'll be LOS in a minute for approximately 5 minutes.
SC Hello, Houston. You there?
CC Go ahead Skylab.
SC This is the PLT. What am I missing and not understanding. I don't see anywhere where it tells me to install SO19 in the airlock.
CC That's right, Paul. We wanted you to do that in the water service period this afternoon.
SC Oh, I thought you were saying that part was all ready indicated in the flight plan.
CC Negative. We wanted you to do that during that period.
SC Okay. I thought I didn't understand something. Good enough. Thank you. Did you find out who wrote those procedures, yet?
CC Yeah, stand by.
SC Hey, and you'll be glad to know I found the spring. I'm now waiting until the screw loses sufficient energy such as the airflow sucks it on up against the intake screen.
CC We copy that and listen the people - there were several people who worked on that procedure. For example, there was Fernando Ramos, Karl Henize. There was Fred Otallahan and Chuck Ruby all worked on that one, and we passed your thanks along.
SC Okay, thank you, Bill.
CC Skylab, Houston. AOS for approximately 11 minutes.
SC Roger.

END OF TAPE

SL-II MC-343/1
Time: 11:48 CDT, 7:16:48 GMT
5/31/73

CC Skylab, Houston. The tape recorder will be dumped over Ascension at 17:03.
SC Roger.
CC Skylab to be LOS in about 30 seconds, we'll have you at Ascension at 17:03.
SC Roger.
PAO This is Skylab Control. LOS Bermuda. Completion of stateside pass at the end of revolution number 245. Space station now at the start of revolution 246. About 5 minutes away from Ascension Island Tracking Station. Repeat of the earlier advisory to the Houston News Center: In about 2 minutes, a playback of video tape recordings of earlier TV scenes taken aboard Skylab of activation. Followed at 1:00 p.m. by today's Apollo telescope mount television at the ATM console, as well as solar images through the instruments. At 16:59, back in 4 minutes, this is Skylab Control.

END OF TAPE

SL-IX MC-344/1
Time: 12:02 CDT, 7:02:30 GET
5/31/73

PAO This is Skylab Control; 17:02 Greenwich mean time. Less than a minute now from acquisition at Ascension Island Tracking Station. Revolution 246. Ten minutes across Ascension, in this particular pass. Standing by for air-ground resumption of communications. However, two of the crewmen are scheduled for meal period at this time. It isn't likely there will be a great deal of conversation. Standing by for Ascension.

CC Skylab, Houston. AOS for 10 minutes.

SC Roger.

CC Skylab, we'll be LOS in a minute. Carnarvon at 17:36.

SC Roger.

PAO This is Skylab Control. LOS Ascension. Skylab space station presently off the western coast of the tip of south Africa. About 1/4 of the way through revolution number 246. Average temperatures today in the workshop running around 82 degrees Fahrenheit. Science Pilot Kerwin and Pilot Paul Weitz still apparently in the midst of noon meal. Very little conversation during the last three passes - Hawaii, Stateside, and Ascension Island. Later in the day, another ATM run is scheduled, and the now-repaired S019 ultraviolet stellar astronomy instrumen will be activated. After his noon meal, Pilot Paul Weitz will reinstall this instrument in the scientific airlock and continue with the run as scheduled, at around 20:30 Greenwich mean time. Carnarvon in 19 minutes. At 17:17; Skylab Control.

END OF TAPE

SL-II MC345/1
Time: 12:35 CDT, 7:17:35 GET
5/31/73

PAO - This is Skylab Control; 17:35 Greenwich mean time. Less than a minute out from Carnarvon with a brief gap after Carnarvon over into Guam. To summarize briefly the current status of Skylab electrical power availability. Sixteen of the 18 charger battery regulator modules or CBRM's as they're referred to in shorthand are on line. Number 15 had failed shortly after launch. Number 3 went off line along with three others yesterday after the EREP pass and failed to come back on line. Troubleshooting is continuing and will continue tomorrow on ways of getting this CBRM back on line. At any rate the -

CC - For 10 minutes.

SC Roger.

PAO - At any rate the power available is certainly adequate for remainder of today's flight plan and definitely adequate for the crew rest period scheduled all day tomorrow. There is a possibility of a earth resources pass for day after tomorrow - Saturday. This is a possible pass right now. It's not definitely in the flight plan but it's being looked at closely. It would be a rather brief data take pass compared to yesterday's EREP survey. The main power drain comes in switching from solar inertial attitude to Z-local-vertical or Earth looking and back again. And it was this period of time yesterday after EREP pass number 1 that the CBRM's dropped off the line because of low voltage sensing. Right now the average battery state of charge for the entire cluster - that is the ATM batteries, 86.1 percent of capacity. Standing by for the remainder of the Carnarvon pass, jumping over to Guam. Space station crossing the southwestern coast of Australia about Perth. Spacecraft Communicator Bill Thornton has given an AOS call to the crew who responded but said nothing further. Skylab Control standing by.

CC What's that requiem for flight control?

SC Say again.

SC That's PJ's bagpipes.

CC Thought that was requiem for flight control.

SC No we give you a little bit of selected pieces every now and then.

CC We appreciate it.

SC That's the tempo for the CDR to do M4871A - whatever he's got.

CC You need another music for that one.

SC Houston, SPT.

CC Go, SPT.

SC Got a stupid question here. I have a feeling I ought to all ready know the answer to this but

SL-II MC345/2
Time: 12:35 CDT, 7:17:35 GET
5/31/73

I'm about to do the second Sunside pass out of JOP 23 and I want to verify that the X-ray experiments do not want to repeat our next orbit. That I should not run 56 and 54?

CC — Stand by half, Joe. Joe repeat both experiments. Repeat both experiments.

SC — Okay we'll run the whole building block over again.

CC — That's affirm.

PAO — This is Skylab Control bridging a gap here between Carnarvon and Guam about 2 minutes wide. There was some sort of "space first" there with - we've heard all kinds of music, country western, classic, military on earlier missions being broadcast down from spacecraft but this was probably the first bagpipe music. One minute and a half to Guam. 17:49 Zulu. Skylab Control standing by.

END OF TAPE

SL-II MC-346/1
Time: 12:50 CDT, 07:17:50 GET
5/31/73

CC Skylab, Houston. AOS for 9 minutes.
PAO Skylab will be LOS in about 45 seconds. We'll see you at Goldstone at 18:15.
SC Roger.
PAO This is Skylab Control; 18:01 Greenwich mean time. Acquisition at Goldstone in 14 minutes. We'll bring up the circuit at that time. 18:01 Zulu. Skylab Control out.

END OF TAPE

SL-II MC-347/1
Time: 13:15 CDT, 7:18:15 GET
5/31/73

PAO This is Skylab Control; 18:15 Greenwich mean time, less than an a minute from acquisition with Goldstone Tracking Station. Stateside pass sweeping down from the Puget Sound Area, coming out in the Georgia coast. Standing by for air to ground.

CC Skylab, Houston. AOS.

SC Roger, Houston. Got a question for you. Are you going to get a S019 pad up for me. I don't have one yet for the 21, 28, or whatever it is operations that are scheduled.

CC Pete, that's on its way. It'll be up this site.

SC Okay. Can you tell us. Is the prism in or out?

CC Prism is in, Pete.

SC Roger.

SC Houston, CDR.

CC Go, CDR.

SC Okay. We'll get these water tank cap measurements for you, reference your message of 7:42. The answer to question 2, was the waste management, compartment FMMB electronic module change. The answer is no, nobody told us to. Three - -

SC Told us not to.

SC Oh, you told us not to, I'm sorry. Three, please provide lag and (garble) for pilot, M092, day 148. Question 4, same thing for day 149 for the CDR and my question is, what happened to the data? Did you not get B channel because I know it was put on.

CC Stand by half a minute on that last one, Pete.

SC Okay. Well, we'll sort it out for you, but we're not writing that stuff down, as you well know. And it does go on B Channel and maybe we (garble) or something, but we'll dig that up for you.

CC Pete, we probably have a later word on you on that last question.

SC Okay. Question number 6. Did the power systems alert light ever go out subsequent to data cycling CBRS 5, 6, 7, 8, 11, 12 and 17? As far as I know the power system alert light has been on ever since we've been in the vehicle.

CC Copy.

SC And I'm in route to do number 7 right now.

CC Copy.

SC Houston, SPT.

CC Go, SPT.

SC Bill, the first thing I asked them, when the SMMD went on the fritz, was - is there a spare. They said no.

CC Yeah. What happened there, was, we intended to give the option of either changing out the electronics and putting it in the head or else doing the fecal measurements in the wardroom. And possibly we weren't specific enough.

SC Well, we'd, We'd be inclined to take the feces into the wardroom and that makes it something between you and Dr. (garble). Which instrument you'd rather have up, just let us know.

CC Okay. We understand the status now. And we'll get you an answer on it.

SC Okay.

SC Say, Houston. The PLT figured out your - I won't use his exact words - but he said he gathers that you're working your way around to the fact that we're either going to weigh food in the head, or waste material in the wardroom.

CC All right, I think I can supply the missing words Pete.

SC And the secondary coolant loop and 21 circuit breaker is reset and it's set, I mean it just low again.

CC We copy.

SC And the other thing is on question 1, which says water tank cap measurements performed during pre-housekeeping. Where you write rate those housekeeping (garble) you can now consider those no longer a pre-housekeeping there. The only place that we get a chance to catch up from where we're behind and that's one of the reasons things snowball on us in the evening, because it's not working the way it's suppose to. We're using those housekeeping packages to catch up.

CC Pete, we surmized that that was happening. And understand. Do the temps whenever you can.

SC Okay. I just wanted to explain that to you and the other thing is that one of these days one of these pieces of gear is going to work right the first time we take it out. And unfortunately up to this point, it hasn't. And my latest one that I just spent a little time on although I don't work the big deal was the 4871-A. Because I was going to try and get ahead and do that first before I did my PT. And it did not calibrate correctly. You can tell them that cassette minus .9DB, I had to use full adjustment. And it is now against the stop, but it just barely made .9, it's closer to minus .7DB. Now, I was in the process of making my first measurement and I noticed, I - I guess this thing doesn't. There's a measure under 60DB, and I checked that at the register in the wardroom. The vehicle is pretty

quite, but I - don't quote me on that one. I was just starting to do it when you all called.

CC Okay, Pete,. We copy.

SC Hey, Bill. Where are we?

CC Oh, sorry. Over Goldstone.

SC No, I mean what part of the country are we over right now?

CC You should be just north of Puget Sound now, above Oregon, coming across the border, or flying along the border.

SC Oh, okay, I got it. We're just east, ending south of the Great Lakes. All right.

SC We just - We keep the MDA windows closed. And unless you're in the wardroom you might as well be in the Yellow Submarine, as far as figuring out where we are.

CC (Laughter) Copy.

END OF TAPE

CC CDR, on question 3 and 4. That requirements gone away. We've found the material.
SC Very good. Hey, Bill, I have something else.
CC Go.
SC We recovered the spring for that S019 knob but the bolt or screw hasn't showed up yet. Could somebody do a little research. If three is fine we'll just go ahead. If they'd rather have 4 somebody's going to have to find a substitute some place in the workshop.
CC Okay, we copy that, Paul.
SC There's a screw loose in the forward compartment.
CC PLT, Houston.
SC Co ahead.
CC Don't worry about either the spring or that missing screw. You're in good shape without them.
SC Okay, thank you.
SC Hey, Bill also I'm scheduled for a CO2. Did you want to do that in view of - what was that in the instrument - or are you going to have some procedures up to troubleshoot it?
CC Stand by, here.
CC Pete, prior to the CO2 measurement we'll get you some words up on that. There may be some changes.
SC Yeah, Paul tells me that he put that information on B channel. We had some problems with it this morning so if you haven't gotten -
CC We've got it. We'll reach a decision on that.
SC Okay.
SC Well I'll tell you I've spent a lot of time in space before at 150 nautical miles - but this 237 is just unbelievable over the United States. We just came across GARBLE. You can see all the way to the tip of Florida. You can see the whole Bahama chain and you can see all the shallow water and all the deep water all in one big picture. It's really fantastic. Tomorrow on our day off, we get the camera squared away well I hope we can get some good GARBLE shots of this because they are pictures like I know we would never see that much in one picture before.
CC By the way did you get the Hasselblad squared away, Pete, or do you need any further help on that?
SC No, we haven't had a chance to do that yet, Bill. We' work it tonight or we'll get it tomorrow - one of the two.
CC Okay, and we'll be looking forward to pictures from it.

SL-II MC348/2
Time: 13:24 CDT, 7:18:24 GET
5/31/73

CC You have that one front that's sitting up there by Indianapolis. If it dissipates, we ought to be able to get some great pictures tomorrow in our stateside pass.

CC We copy that. Thank you.

CC Skylab, LOS and we'll see you in approximately 40 minutes at Carnarvon.

SC Roger.

PAO This is Skylab Control; loss of signal from Bermuda. Skylab space station will graze past the northeast coast of the south African - south American continent. Now starting revolution 247; 38 minutes to Carnarvon tracking station. And at 18:36 Greenwich mean time, Skylab Control.

END OF TAPE

SL-II MC-349/1
Time: 14:13 CDT, 07:19:13 GET
5/31/73

PAO This is Skylab Control; 19:13 Greenwich mean time. On 40 seconds from acquisition at Carnarvon, with a brief gap over to Guam. Final passes over these stations for several hours until the descending node moves westward. Starts back down through that part of the range. At this time, the science pilot and pilot are scheduled to be alternating as subject and observer on the M131 vestib - human vestibular function experiment, while Commander Pete Conrad is running the second ATM - I beg your pardon, the third ATM run of the day. Standing by for acquisition at Carnarvon and resumption of communications between the crew and CAP COM here in Mission Control.

CC Skylab, Houston. AOS - nine minutes.

SC Roger, Houston. And I got a few words with you about the sound meter.

CC Go, Pete.

SC Okay, we're going to the Sun on this pickup here. I've gotten it on the wrong scale. And I have it adjusted correctly now, and it's taking readings. I get like 22dB for ambient noise level. Does that make sense?

CC (Garble) if it's very quiet, it does. 22dB is pretty quiet, but, yes, that's not unreasonable.

SC Okay, well I have to take it on mostly down in the - I've got most of the OWS. I haven't come up with the MDA yet. I was curious to - I thought that was kind of low myself.

CC Yes, 22 is very quiet, but that's like being in the middle of the desert.

SC Yes, well some of the filtered stuff - it's a different frequency rate. Gets up around 28-1/2. So maybe it's okay.

CC Goodo, Pete.

SC You can chalk up one on me for that CAL. I just read the checklist; so I did it on the wrong scale.

END OF TAPE

SL-II MC350/1
Time: 14:21 CDT, 7:19:26 GET
5/31/73

CC Skylab, Houston. AOS 6 minutes.
SC Roger, Houston.
CC Pete, this is just for information only. On the S052 OPERATE light anomaly, they think this may have something to do or be in some way related to a discrepancy that they note between the number of frame counts that you are getting and the number that ground's getting. Ground is showing 302 more frames used than you have shown, and as you're aware, the S052 takes 12 frames during a standard patrol.
SC Okay, understand. (static) (Garble) coming on and we'll take a couple of more frames (garble).
CC Pete, you're unreadable on that one.
SC (Static)

END OF TAPE

SL-II MC351/1
Time: 14:32 CDT, 7:19:32 GET
5/31/73

CC Skylab, we'll be LOS in about 30 seconds. We'll see you at Goldstone at 19:52.

SC Okay.

PAO This is Skylab Control; 19:36 Greenwich mean time. Sixteen minutes from acquisition through Goldstone Tracking Station. And the stateside pass, sweeping down through the central part of the country from the Oregon coast, coming out around Corpus Christi, Texas. Across the Yucatan Peninsula and the Ithmus of Panama through central portion of South America. On the end of revolution 247 and beginning of revolution 248. The last two passes over Carnarvon and Guam. The last two station passes have been rather quiet, in as much as the crew is apparently wrapped up in conducting experiments scheduled in the Flight Plan at this time. Back in 15 minutes for the stateside pass at 19:37 Greenwich mean time; Skylab Control.

END OF TAPE

SL-II MC-352/1
Time: 14:50 CDT, 7:19:50 GET
5/31/73

PAO This is Skylab Control at 19 hours and 51 minutes GMT. Skylab space station is coming over, in contact with the Goldstone Tracking Station, on a lengthy stateside pass, which should last approximately 19 minutes. Science Pilot, Dr. Joseph Kerwin, is currently performing the human vestibular function test, which is designed to determine changes in the semicircular canal sensitivity. Dr. Kerwin is wearing test goggles as he rides a rotating litter chair aboard the spacecraft. This particular phase of the test will be performed six times on each crewmember during the mission. Meanwhile, Commander Conrad is still working on the C&D panel at the ATM console. We'll pick up communications between CAP COM, Dr. Bill Thornton, and the Skylab space station.

CC Skylab, Houston; AOS.
SC Roger, Houston.

END OF TAPE

SL-II MC353/1
Time: 14:59 CDT, 7:19:59 GMT
5/31/73

CC Skylab, Houston. We'll be dumping the tape recorder over Vanguard at 20:18.

CC Skylab, Houston. We'll be dumping the tape recorder over Vanguard. That'll be at 20:18.

SC Roger, Houston.

SC Houston, CDR.

CC Go, CDR.

SC We're having a hard time finding any (garble) to do. Actually they want me to work all night. Sorry I couldn't (garble) up a little bit I guess - just (garble) out.

CC Pete, I'm sorry. You weren't readable on that one. Would you say again?

SC I was just saying that Joey (garble) that this isn't a very active active - region, and I was having a hard time getting anything out of it for him.

CC Okay. We copy that, Pete. It's a very quiet Sun.

CC Skylab, LOS in 1 minute. We'll see you at Vanguard at 20:18.

SC Roger.

PAO This is Skylab Control at 20 hours and 7 minutes GMT. Skylab space station, beginning its 248th revolution, in LOS right now. The next station that we'll pick up will be Vanguard, in approximately 10 minutes.

END OF TAPE

SL-[illegible] MC 134/1
Time: 13:17 CDT, 07:20:17 GMT
5/31/73

PAO This i[illegible] Skylab Control at 20 hours and 17 minutes GMT. Skylab station will come into contact with the Vanguard tracking station and we'll pick up the air to ground as that occurs.

CC Skylab, Houston. AOS for 8 minutes.

CC Skylab, LOS in one minute. Goldstone AOS 21:29.

SC Roger, Houston.

PAO Skylab Control at 20 hours, 27 minutes GMT. As the Skylab station loses contact with the Vanguard tracking ship, we will have an LOS for more than one hour and three minutes as the Skylab station crosses out over the South Atlantic, below South Africa. Flies up the Pacific over the Indo-China area. Over Japan. Next contact will be with the Goldstone tracking station one hour and 3 minutes from now. The last report from the crew is that the Science Pilot, Dr. Joseph Kerwin, was still performing the M131 experiment. Next items on the flight plan for later, is Pilot Paul Weitz performing the M092 lower body negative pressure device. Immediately followed by the 171 experiment, Metabolic Activity. This portion of the activity will be on film - on 16mm data acquisition camera. As part of the M151 t[illegible]-in-motion study experiment. Again, next contact will be over Goldstone in approximately one hour. This is Skylab control at GMT - 20 hours and 28 minutes.

END OF TAPE

SL-II MC-355/1
Time: 16:27 CDT, 7:21:27 GMT
5/31/73

PAO. This is Skylab Control, at GMT 21 hours and 28 minutes. As the Skylab Space Station approaches the west coast off California, we will have AOS in approximately 1 minute. Pilot Paul Weitz should be either partially completed or partially into - excuse me, partially completed the M092 lower body negative pressure device. And he will follow this experiment by M171 and perform the metabolic activity experiment which is designed to measure his energy expenditure as he rides the onboard bicycle ergometer. We will pick up any air to ground as it arrives.

CC Skylab, Houston. AOS for 21 minutes.

SC Hello, Houston, Skylab. Say I've been wrestling with that down meter all the afternoon. And I finally got it to read right. It's reading around 15 dot decibels, but it doesn't work according to the checklist. And I guess my question is, is the check list wrong, or is there something wrong with the down meter?

CC Okay. Could you tell us what you had to do to make it work, Pete, Quickly.

SC Okay. I don't have the checklist in front of me but, when you shut it off correctly, both the inner and outer black and clear dials are both clockwise. So, that the clear dial has 70 underneath it, to start with. And if it's reading minus DB's you use the clear dial going counter clockwise to lower DB settings. And if it's plus DB you run the black dial counter clockwise to get higher DB readings, so you can read it on the (garble) scale. So, when I do that, it started out that way. I need to take the clear dial and move it to lower DB, and low and behold I get all the way down to 20. That's when it starts to read. Except it reads 22 DB and you can light off a bomb up here and nothing will happen. Now, it says in the book, don't rotate both dials simultaneously. And I gather it also means that one should stay over against the stop one way while the other one is being adjusted. And if I mix them up, I can come up with 50, in the 50 DB range, and it reads fine. But it's not per checklist.

CC Okay. We copy that. And we're looking at it, now, Pete.

SC Thank you.

CC Pete, there are 2 messages for you, if you're free to copy them.

SC Ah, yes, sir.

CC Okay. The first one has to do with a revised star tracker pad for S-19 OPS. And the inner gimbal is minus 0142. Outer gimbal is plus 0422 and the valid time on this is 151:21 to 23:00.

SL-II MC-355/2
Time: 16:27 CDT, 7:21:27 GET
5/31/73

SC Okay. The (garble).
CC That is affirmative.
CC And did you get the S019 pad?
SC Yes we did. And are you going to command the star tracker on.
CC Stand by.
CC Now, Pete. We could do it, but we were going to leave that to you.
SC Okay. That's okay, fine. Very good. Thank you.
CC Okay. The other thing is that we want the S054 frames remaining counter to be reset after the 2107 pass.
SC Okay. What do you want it reset to?
CC Goes to zero.
SC Go to zero?
CC Stand by one, Pete.
CC That's full scale, 6000.
SC That's 6000?
CC Yeah, just select the reset and it's suppose to go there.

END OF TAPE

SL-II MC356/:
Time: 16:36 CDT, 7:21:36 GET
5/31/73

SC Houston, CDR.
CC Go, CDR.
SC The - while we're up to stuff in side-tracking this ENABLE, do I have t o do any of that - GARBLE.
CC Pete, we show you're locked on a star here.
SC Well, I know I've got it locked on but is the update ENABLED and all that, or do I have to COMMAND that also?
CC Stand by. You're all ready to go, Pete.
CC Skylab, you're going to be LOS in a minute. Vanguard at 21:55 and Pete as we said you're all ready ENABLED and ready to go.
SC Roger. GARBLE.
SC And I feel like Mr. Solar Physicist today after all that time on the ATM panel.
PAO This is Skylab Control at 21 hours 44 minutes Gmt. We have just lost signal at Texas tracking station. We will have AOS in about 12 minutes at the Vanguard tracking station. We have some updated information from the back room in the Skylab program management office which is as follows. In spite of the continuing electrical power shortage onboard the damaged Skylab vehicle a great deal of productive science is being accomplished. Both attended and unattended operations of the ATM were conducted. The first two daylight cycles were not run because of electrical power problems which necessitated turning off the pointing and control system. Synoptic data of the Sun's center and one active region were taken. Yesterday the first earth resources pass was executed. This pass started with a data take over the Oregon coast at 3:34 p.m. central daylight time. Information from the EREP sensors was expected at the land water interface at the Oregon coast but was obliterated by the rapid movement of a frontal weather system. Improving weather conditions were experienced over the desert basin and range provinces of the southwestern United States. The crew reported observing the Great Salt Lake desert as well as the Texas coastal area southwest of Corpus Christi on the Gulf of Mexico. The Skylab earth resources evaluation team has performed a post-pass analysis of the operation of the earth resources sensors using the Skylab voice recorded logs. These logs contain crew comments of the onband - orboard indications of the operation of each sensor. Assessment of these indications by the evaluation team has indicated the multispectral scanner and the two microwave sensors function normally. Onboard indications showed a malfunction light in one of the six cameras from the multispectral camera array. The

crew will be requested to examine the film cassette from the camera that gave the malfunction indication. The infrared spectrometer did not reach proper operating temperatures since it was designed for a 60 degree Fahrenheit wall temperature and the actual wall was 54 degrees Fahrenheit. However, desired data were still obtained for all of its sensing spectrum with the exception of the thermal data. Workarounds to minimize the effects of a low wall temperature are in progress. On the corollary experiments this morning by partially disassembling the gear drive on the mirror system of the ultraviolet telescope, experiment S019, the Skylab crew repaired the problem that was found yesterday. A piece of metal was found to be forced against one of the gears, jamming the mirror drive system. Analysis and repair of the instrument required 2 and three half hours and was performed yesterday and today during periods when the S019 instrument had earlier been scheduled for observations. An observing run with the repaired instrument is now scheduled for this afternoon - was performed this afternoon at approximately 17:00 hours central daylight time. As of this afternoon, medical experiments onboard Skylab are on schedule. And principal investigators are now analyzing the data as it becomes available. During the previous four days of the medical experimentation Pilot Paul Weitz has conducted the M092 and 171 experiment. On the fourth day of the mission, Commander Pete Conrad completed M092, and 171 on the fifth day of the mission, and Science Pilot Dr. Joseph Kerwin also completed M092 and 171 experiment. On the sixth day of the mission Science Pilot Joseph Kerwin donned the sleep cap experiment M133 and this was conducted successfully. Pilot Paul Weitz on that same day, M131 vestibular function was performed. Today Science Pilot Joseph Kerwin conducted again the 131 experiment vestibular function and is also scheduled this evening to wear the sleep cap, the M133 experiment. Also on the 7th day today Pilot Paul Weitz completed the M131 vestibular function test and also the M092 171 experiment. This concludes the latest information from the Skylab program management office. We will take the line down now and have AOS at Vanguard tracking station in approximately 6 minutes. This is Skylab Control at 21 hours 50 minutes Gmt.

END OF TAPE

SL-II MC-357/1
Time: 16:55 CDT, 07:21:55 GET
5/31/73

PAO This is Skylab Control at GMT 21 hours and 55 minutes. We should be getting acquisition at the Vanguard tracking station with the Skylab space station in about 30 seconds. We'll take up the line and listen as Dr. Bill Thornton, serving as CAPCOM today, will touch base with the crew.

CC Skylab, Houston. AOS for 7 minutes.

CC Skylab, Houston. LOS and 30 seconds. Hawaii at 23:04.

SC Roger, and be advised SO19 is right on the money. And it's in operation.

CC We copy, Pete.

PAO This is Skylab Control at 22 hours 4 minutes GMT. The only transmission on the previous pass, as you heard, was Commander Peter Conrad informing CAPCOM, Dr. Bill Thornton, that SO19 was right on the money and in operation. To recap the electrical power problem, as it exists at this time, this is our present situation. Two of the 18 CBRM's, the charger battery regulator modules, are off line. As a result, the crew was advised earlier to curtail certain activities, which included the cancelling of the scheduled EREP pass today and several TV items. Also, the water heater and the personal hygiene area was advised to be turned off. The crew has been advised to begin switching the cycling switch on CBRM number 5, during daylight passes. On CBRM number 3, the problem currently exists between the - the solar panels and the regulator. The CBRM is - energy is getting from the solar panels to the regulator. But we can't bring it on line at this time. On number 15, apparently there was a switch open. Again, solar - the solar array, between the solar array and the regulator. The ground is looking at this and will study it further. And at this time, we have 58 minutes to the next pass at Goldstone. This is Skylab Control at 22 hours 6 minutes, GMT.

END OF TAPE

SL-II MC-359/1
Time: 16:15 CDT, 7/23:15 GMT
5/31/73

PAO This is Skylab Control at 23 hours and 15 minutes GMT. To correct an earlier announcement - The activities scheduled for tomorrow, which is being considered tonight, is placing the television camera - onboard television camera - at the airlock-module hatch window to possibly take pictures of the partially deployed solar panel on the orbital workshop. However, at this point, procedures have not been worked out, and these details will be worked out tonight and passed up to the crew if this operation is feasible. However, as we said, the procedures have not been finalized, and the final decision on this will be reached later on. This is Skylab Control at 23 hours 16 minutes GMT.

END OF TAPE

SL-II MC358/1
Time: 18:03 CDT, 7:23:03 GMT
5/31/73

PAO This is Skylab Control at Gmt 23:03 minutes, we'll pick up the conversation over Hawaii.

CC The procedure is then worked up for looking via TV out the airlock at the SAS wing and the value of this is currently being determined at test here. How would you feel like doing about 3 hours of this on yuur day off tomorrow?

CDR Yeah, I guess we ought to. Sounds good.

CC Okay, we're going to hold the flight plan under these circumstances and we'll get the flight plan up later. Also, we - on the panel 203, the MDA FAN CSM switch to OFF. However, before entering the CSM turn this fan back ON.

C DR Okay, we understand.

CC Okay. On the VTR for today at 152:00, turn the VTR MAIN POWER SWITCH ON. CAP COM will cue you on this one. We will disable then after the last ATM pass.

CDR Say again the times, Joe, I came up garbled.

CC Okay. That time is 152:00:40 and the CAPCOM will cue you.

CDR Okay. That's for VTR power. We got it.

CC Rog. And the ground will position the recorder to the proper location of the tape. We haven't dumped any data today and we'll accomplish this tomorrow.

CDR Okay. What else you got?

CC Okay. We've got one on the CO2 here. The little (GARBLE) CO2 to monitor and this is reference CO2-1 24:15 today. Select system B. Also change the procedure during temperature measurements to pump during the temperature until the temperature stabilizes or for a maximum of two minutes. Now if the CO2 readings are not considered adequate on this attempted usage then we will terminate the experiment - terminate the experiment.

CDR Okay. Was this the B that we used this morning because it was system A that had all the goofy stuff coming out of it. Do you still want to go ahead with B - as I understand it. We'll give her a whirl.

CC That's affirmative, Pete. Also we want you to run a primary Sun-sensor checkout of the last ATM Sunpass of the day. This is for the PLT. And the procedure on this is to select the primary fine sun sensor, drive the wedges in a direction opposite to the displayed values. And CDR do this after the data take is over.

CDR Roger.

CDR Okay, you still there, Bill?

CC That's affirm.

SL-II MCC58/2
Time: 18:03 CDT, 7:23:03 GMT
5/31/73

CDR Okay, standing by to switch these off.
CDR Also be advised momentum is ENABLED. I ENABLED it early.
CC We copied both of those, Pete.
CC CDR we're going to be LOS in about one minute. We'll have you at Vanguard at 01:10 and that'll be the medical report.
CDR You're going to have us between 23:00 and 01:10 is that right?
CC Stand by.
CC That's incorrect, Pete. I gave you the wrong one. That's 23:31. That should have been 23:31.
SC Okay, 23:31 and we'll stand by. (garble) housekeeping (GARBLE).
CC Copy, Pete.
PAO This is Skylab Control at 23 hours and 11 minutes Gmt. We just heard the Skylab crew Commander Pete Conrad discussing with CAP COM Dr. Bill Thornton the possibility tomorrow on their day off of setting up the TV camera to shoot out the hatch window, the airlock module hatch window, to try to get pictures of the parasol Sunshield which was deployed the second day of the Skylab II mission. It is estimated this operation will take approximately 3 hours of crew time tomorrow and as earlier reported tomorrow the 152 day of the year will be the scheduled crew day off. There will be a change of shift conference, Change of Shift Briefing at the Building 1 newsroom at approximately 7 p.m. central daylight time with Flight Director Don Puddy. This is Skylab Control, 23 hours and 12 minutes Gmt.

END OF TAPE

SL-11 MC 360/1
Time: 18:29: CDT, 07:23:29 GMT
5/31/73

PAO This is skylab, Control at 23 hours, 29 minutes, GMT. Skylab space station will be coming in acquisition with the Vanguard tracking station momentarily. We will leave the lineup for any air to ground that may commence.

CC Skylab, Houston. We're AOS in Hawaii - excuse me, in Vanguard. We got you for 9 minutes.

SC Good.

CC And be advised last pass that we forgot to - we're going to be dumping tape recording here. And I see that we got clipper out.

CDR No, we have'nt gotten it yet. But we're close. Go ahead.

CC Okay. Pete, we're prepared to do this housekeeping 60 gulf. However, if - we'll be glad to reschedule it later if you guys are not prepared to support it.

CDR We're prepared. We were waiting for you last pass.

CC Roger, I know. Stand by.

CC Skylab, Houston. We're starting the (garble) for the procedure.

CDR Okay, Houston. It all worked. You can go ahead and send two.

CC Roger. We will. Stand by.

CC MARK. It's up there now.

CDR Okay. We got it on 2. All fine, boxes are working.

CC Very good. Thank you.

CDR And Dick, some time later tonight, we're going to - we're working up all these little things that caused us to get behind, and why. And we'll have them all on B channel for you, for the Flight Director and the FAL to look at, okay? And I want to make sure they get that stuff tonight when it comes down. Probably two or three more hours before we get it on there.

CC Roger, Pete. We certainly will and it might help us to let us know - when you - approximately when you are going to put it on the B channel little bit later on, we'll be sure and find it and we'll see that it gets passed around. And also, if there are any items that you would care to this evening summarize for us on air to ground, we'll be glad to. Otherwise we'll be waiting for channel B.

CDR Well, I can summarize my problems today, because I just took the last (garble) you're suppose to 60 gulf. And cut down, I wrote them out, just a second.

CC Roger. We're standing by and still got about 6 more minutes this pass. While you're looking for tha I ave - I have one note here for the friendly SPT. Our M133 data from last evening, was very much improved. And so, we're assuming that those caps that got out of that dome locker probably helped the sit.a-tion. And probably ought to continue going that way.

SPT What did they find out about me Dick?

CC Man, that you're still up there.

SPT Am I creep" or not?

CDR Okay, Dick. I got the stuff for you.

CC Go ahead.

CDR Okay. One of the first things is that I think we should've cranked in earlier, but we didn't have a chance. It takes about 5 minutes to keep depress and repress the SAL. They're very, very slow. And if you add on the minute check and everything, it takes about 7 or 8 minutes to do that. And when you got a pass where you --

END OF TAPE

SL-[illegible]361/1
Time: 118:37 CDT, 7:23:37 GRT
5/31/73

CDR [illegible] the SAL there. It's very very slow and if you add on the (garble) check and everything, it takes about 7 or 8 minutes to do that and when you've got a pass where your suppose to depress the (garble) SAL and repress, you can go back again like night pass and you take a guy off the ATM to do that, it doesn't work. That's number 1. Number 2, you guys are slipping things into the PSA both in the morning and the evening with that end of time. And an example of that this morning was, it had to be TV13 set up on the PLT spot and it came into his PSA, or he would not have made the right time, when it was suppose to be taken. We didn't have a flight plan. We were scurring around. I missed the momentum dump inhibit at 1200 and you're cutting the corner pretty close when you do that. We're still scurring around down below. We've all ready given up shaving in the morning to and we do it at night after 0300. Just be advised that we're having a tight time making the PSA. And your time estimates for small activation initial pass has turned out to be completely wrong. We've had trouble with every piece of gear. And the examples today were, the CO2 monitor which turned out to be bad. The audio meter, I thought we got that straightened out. The first one was a goof on my part because I was hurrying and - But now I set down later some more information. And it appears to me the checklist is wrong or somethings goofed up in it. I shot a good hour and a half on that baby. But the most important thing that I want to get around to is, what I consider some violations of the ground rules we sort of have set up in the sim, as an example, today again, on my part was FAO, I feel violated two criteria today on my flight plan, turning over a repeating job to another crewman. I set up a limb SCAN MODE, and then had to turn it over to Joe, and you know that takes extra time to do that. Joe was running behind, so, you know, we did a lot of scurrying and we got it done.

CC Roger, we're still listening, Pete, and we got about 2-1/2 more minutes left.

CDR Okay, further I was hacked at 2300 tonight, because since 1900 until 2304 we finished every thing on time including inhibit, so I had alarm clocks going off in my pocket. If you'll look back over my plan, I've been whistling all over this space craft today, and I got it all done, only to get up here at 2300 and get a bunch of baloney you could have done on the teleprinter, and you guys missed the housekeeping DOF, which I had been shooting for all day, just because I said I'm gonna get it all done, I'm gonna get it all done and I'll meet those guys on time. Now part of that problem was S019, part of it was the SAL, part of it was that first pass, it was way too long

I got it all done, but I got it done poorly, by only doing two of the reference bars, and running the four photographs, and it turns out when I did the last reference bar, which was in daylight, by the way, that it - to check the reference, the reference was locked when the first one had been on, and therefore, I don't know what the other two are. So I suggest that to do S019 correctly, that we take one whole night pass, and do nothing but send up four references to check, to check the four quadrants, so that we can do a very precise, very accurate job on that, and it gets data back to Carl so that his experiment can be done right. Are you still there.

CC Affirmative, Pete. We've still got about a minute left to go this pass. Tell you what, Pete, why don't we secure listening to your or - your summary here. We'll be more than happy to keep listening here to the evening status report, but I hate to cut you off in the middle. We got about 50 seconds left. The next pass is Hawaii at about 0040, and one of the things that I think that we really don't have a good feel for here on the ground and we'd like to know is, has accumulation in the last week put in a requirement for us to give you any time just to get squared away in the way of stowage, trash, and that kind of thing. We got about 20 seconds left and I'll see you at Hawaii.

CDR Yeah, we're barely hanging in on that, Dick, but I think we just got to ease the load just a little better by scheduling a little more efficiently.

CC Roger.

CDR Bye.

CC And Skylab, Houston. We still show power in M171. We're assuming that you're still going. If not, if you're still -if you're over with it, it should be off.

CDR Okay, Houston.

CC Roger.

PAO This is Skylab Control at 23 hours 42 minutes GMT. Vanguard pass just concluded, had Commander Pete Conrad discussing what the ground - some of the problems the crew has undergone today. Specifically Commander Conrad pointed out the - provide a better scheduling program for the crew. Said several times he found himself scurrying around the spacecraft and at one time he said he had alarm clocks going off in his pockets, which said he kept telling himself, I'm going to get it done, I'm going to get it done. He blamed part of this getting behind in the timeline, partly due to the S013 experiment, which they worked on this morning, and had operative by this afternoon.

SL-II MC-361/3
Time: 16:33 CDT 07:23:37 GMT
5/31/73

Commander Conrad made several suggested changes and he said we ought to spend more time scheduling more frequently. We now have a LOS period of approximately 55 minutes. The Flight Director Don Puddy is scheduled to hold a change of shift briefing in the news room at 7:00 p. m. This is Skylab Control at 23 hours 43 minutes GMT.

END OF TAPE

SL-II MC-362/1
Time: 18:52-CDT 7:23:52 GMT
5/31/73

PAO This is Skylab Control at 23 hours 53 minutes GMT. Skylab space station is now passing over South Africa, the tip of South Africa, on a long LOS before the next station pass over Hawaii. It is presently on its 250th revolution with the Skylab crew is probably eating dinner at this time. The change of shift briefing with Flight Director Don Puddy, is now scheduled for 7:15, 7:15 central daylight time. This is Skylab Control at 23 hours 53 minutes GMT.

END OF TAPE

SL-II MC-563/1
Time: 19:32 CDT 0:00:32 GMT
5/31/73

PAO This is Skylab Control at 32 minutes GMT, 00 GMT. Flight Director, Don Puddy is in route to the News Room, and the change of shift briefing will begin at about 7:45. This is Skylab Control.

END OF TAPE

SL-II MC 364
Time: 19:38 CDT, 08:00:38 GMT
5/31/73

PAO This is Skylab Control at 00:37 minutes, GMT. We expect to acquire Skylab space station on a Hawaii pass, which will be about 10 minutes in duration. During this pass, it is anticipated the crew will discuss the days activities on their final lengthy pass over Hawaii this evening. We will take the line down and play back any air to ground at the close of the evening change of shift. This is Skylab Control, 00:38 minutes, GMT.

END OF TAPE

SL-II MC-365/1
Time: 20:34 CDT 8:01:34 GMT
5/31/73

PAO This is Skylab Control at 01:34 GMT. In two successive lengthy passes, one over Hawaii tracking station, and the secor over Vanguard, the crew and Capcom Richard Truly, discussed the possibility of tomorrow's TV through the scientific airlock. However, at the close of the Vangard pass, Capcom Dick Truly, told the crew that based on problems and procedures in Building 5, there will not, will not be any scheduled TV tomorrow to look at the solar wing of the orbital workshop. In other discussions in these 2 passes, the crew went over things of discussing things of possilbe fixture methods to the, the release of the orbital workshop panel. Among those things discussed was using a bone saw for one thing. Pilot, Paul Weitz said they would be hard pressed to use the saw to do it. On the Vangard pass, Science Pilot Joseph Kerwin reported a malfunction light in the rate gyros. The ground is presently looking at this problem, and we'll pass up a further information on Hawaii pass, which is now scheduled for 46 minutes from now. We have 15 minutes and 36 seconds of live air to ground. We'll put up this line now.

CC Skylab Houston. We're AOS at Hawaii for the next 10 minutes.

SC (garble)

CC And, one thing real quickly. Be advised we're going to be - you guys did that power down earlier today, and we're going to be doing, commencing here at this pass, powering up a few things by command. One of them is going to be primary coolant loop and so you expect caution and warning in primary coolant flaw. And next thing, for the guy at the ATM which I think is the SPT - - Hello there. We're configured at Hawaii to get an SUV monitored TV downlink, if you could give it to us this pass. And with that, go ahead.

SPT Okay, I'm going to sleep and I will monitor the caution light. It's the star tracker shudder started, or rather the shudder talk back started to operate rapidly here a while ago. And I tried everything, I could to stop it. Finally I just shut the power off on the thing.

CC What was the (garble) in when it was doing rapidly?

SPT The talkback was operating rapidly between barber pole and star, I guess. It was just click click, clicking and I couldn't stop it. If I went to manual and it wouldn't stop, I closed the door and it wouldn't stop it.

CC Roger Joe, copy and we will look at that.

SPT Thank you.

CC And CDR Houston. I'm not sure whether you guys are eating then or whether you have time this pass for the evening status report. Before you give us that, I'd like to ask you one question about this TV for tomorrow if you are listening.

CDR Go ahead.

CC Okay Pete, we've got some guys over in Building 5 that are pursuing how we would implement this TV at the minus C SAL to look at the SAS beam, and the further along they go and in some cases the more difficult the procedure gets, and it is basically a problem because of in order to get it, we were going to put the little 90 degree mirror on the front end of the TV camera, and that doesn't leave enough room in order to deploy it properly. However, we can continue to work on this. And I guess a question that we're interested in is the way I briefed it to you yesterday or the day before, was that we were interested in getting the hi fidelity TV, but the procedure is getting a little hairy. And I guess we were wondering in your opinion, whether or not the procedure would be worth going to or do you think you have enough information the other day on the fly around to in looking at it to answer the specific question, in your own mind and any ones that we may come up with.

CDR Second.

CC Okay.

CDR Okay Dick, I was just talking to Paul. The obvious thing that's holding it and the obvious thing that we couldn't get at. It is entirely possible there was enough meteoriod shield left to, just off the other aid of it that we didn't see it neither would you see it with the television I don't believe. I don't think you'd have the resolution to tell, neither would the television about the strap. I think we could probably describe that (garble) in the question that no one (garble)

CC Okay, stand by just one please.

CC CDR Houston. One question that we'd like to add now and I'm not sure whether you've been asked this or not, but I think it is worth talking about. And that is, we're considering using the bone saw as a method of cutting through the strap. And one of the things we were interested in knowing, at least, was whether or not the bone saw could be, whether or not the strap that is causing the SAS beam to be held down can be gotten to with

the bone saw. We have already verified that the bone saw itself is quite adaquate when handled properly in cutting through the angle iron. And if possible I understand we want to slip the bone saw underneath the strap, in other words between the strap and the SAS beam. Over.

CDR Are you talking about the (garble) saw Dick?

CC Say again please Paul?

PLT (garble) saw, survival cutter (garble) with a rigity edge on it right?

CC Yeah, the one with a ring at each end, and like little bity barbed wire in the middle.

PLT I think you'd be hard pressed, wait a minute, let me talk to Pete.

CC No, I don't think that's any good Dick.

CDR The only chance that we would have right now of getting that thing off is taking something like the pry bar in the MDA tool kit or up at the hatch end some of those hatch tools, which I haven't looked at recently. Then prying it off, because what it has done, is it has got it and whipped around so hard that it has got a couple of screw heads or something through that aluminum skin. And that's what is holding that strap on there. And that's why we couldn't just pull it off. And I have the feeling, (garble), that if you could get something underneath it to pry with, EVA, you could have one hand on the panel right next to it and putting underneath it to pry, I believe you could work that strap off there rather than cut it, because I don't think it is hard enough around the lower sides. There's nothing on the lower sides to hold it up. To hold up the gamble.

CC Okay Pete, frankly I think that helps us out and I'll be sure and get that input put in. And either way, it is real easy to take the tools required out there when we get to that. We still got about 3 minutes in this pass. Are you prepared on the evening status report here for this pass or should we wait til later.

CDR Let's wait til later.

CC Okay, if you have time, I've got a couple of more questions I would like to ask you and one of them is about power and kind of important to us.

CDR Okay, go ahead.

CC Okay, earlier today when you guys powered down, before the power down we were averaging about 4300 watts. And the way we planned the power down, we expected this to decrease at about 300 watts. However, after you finished the power down, we ended up at about 3700 - -

END OF TAPE

PLT - decrease it about 300 watts, however after you've finished the power down, we ended up at about 3700, which is a Delta of 600. So the question is, it looks like that an extra 300 watts came off the line somewhere around in there and do you have any explanation about what caused the power level to be lower than expected. Over.

CDR (garble) We was watching out for switches. We've been running absolutely minimum lights (garbled) we leave all the lights off in the experiment compartment when we're not down there, and we leave them all off up in the dome area, and we leave them off in the bedroom. We leave them off everywhere we can leave them off. There's one place I know. I can't think of anything else, though, specifically.

CC Okay, thank you, Pete. One more question and this is - the other day when you did the EREP pass, we have a question on the S192 ready light. It turns out when we - Well, let me ask you the question real simply. Did the S192 ready light come on at anytime during the pass?

CDR Okay. The light came on when it was supposed to.

CC Okay, real good. It just turned out twice we got a status from you and both times they were off, but at those times they were supposed to be off, and we just were wondering about the middle. Stand by 1 on the next pass, please.

CC Skylab, Houston. We're about 30 seconds from LOS. The primary coolant loop, be advised, looks good. We're gonna be seeing you the next pass down at the Vanguard. And that's going to be at about 01 after the hour. We'd like to go ahead and have the evening status report there. And delay the medical conference one pass, if that's okay with you.

CDR Okay, that's fine, Bill, we'll have it for you then. And be advised the high water tank was 92, and the low one was - what was it, 85- 85 and the information is on B Channel.

CC Thank you, Sir, see you at Vanguard.

CC Skylab, Houston. We're AOS at the Vanguard for 8 Minutes.

CDR Roger, Houston. The SPT has a problem for you to talk to you about. We're on 1-Z GYRO.

CC Roger, understand, and I'm standing by to listen.

SPT How's that, Pete?

CDR Go ahead.

SPT Okay, hey, Houston, about 5 minutes ago

we had RCS MALF and a cluster attitude light, which went on and then off. The RCS MALF is still on, but we have a single notation in the Z-GYRO, with the switch in the 13 position, indicating that's operating GYRO 1 only. The CDR reported significant TACS firings, which I missed. The RATES are low. The CMGs look good, and we wish you'd fix it for us. Over.

CC Well, we'll sure be looking at it.

SPT Okay.

CDR All right. Here's the evening status report for you. you ready.

CC Yes Sir. Go ahead.

CDR Okay. The - wait 1- everything went blank. Okay, the CDR ate everything today except for dinner he couldn't quite hack the green beans, so I dumped them. Otherwise, everything else was taken.

CC Roger.

CDR The SPT ate all his breakfast, item 25, salmon, he substituted for peanut and jam - peanut butter and jam, because (garble). And he ate all his dinner, except the catsup, which was spoiled, and he will eat all his snacks except apricots.

CC Roger.

CDR The PLT ate everything up to dinner. He did not eat his bread and his snack, item 62, he only drank half his coffee.

CC Roger.

CDR And the photo log Day 161. 16 millimeter M-4874 Alpha, CI 01 07, CI 02. Next line 48 74 Bravo, we will shoot up that magazine on it tonight. CIO 1, 00, CIO 2. On 35 millimeter CI 26, the frame count is now 27. The Hasselblad status, and we'll have to get some more information to you on the number on that one right now. But CS04 magazine was no good. It had the red indicator, and we couldn't make it run in the other camera, and so we took the fuse out of the other camera and put it in HDC02 which now has CS05 on it. And I have a question. Do we have any spare Hassleblad fuses? I know we have DAC fuses, and we could find no Hasselblad fuses looking in the stowage book.

CC We'll get you an answer on that, Pete. Go ahead.

CDR Okay, I don't think we had any flight plan deviations that you don't know about. Stowage item changes, none that aren't on B channel. Inoperable equipment, none that you don't know about. And the one thing that we have yet to be able to find is the purported changes in salt for or menus and we've looked around and looked

around in the CSM stuff and we can't find it anywhere, and we'd appreciate it if you'd uplink our salt requirements for our six menus, please.

CC Roger, understand. You're unable to find your salt requirements for the menus you have on board, and we will plan on uplinking that. And in answer to your question on the Hasselblad fuses, that's negative. There are no spare fuses for the Hasselblad on board.

CDR Okay, well, we can make a slug if we need one.

CC Rog.

CDR (garble)

CC Stand by, please.

CC Skylab, Houston, be advised, we're powering up RATE GYRO 3 by command. We're gonna let it spin up, and we will not be enabling that GYRO until Hawaii. And to let it warm up, and I did not get the last transmission. It was very short, if it was important.

CDR I just said that was it over to you.

CC Okay.

CDR I - I would like to add one thing, Dick, I think tomorrow, rather than be a day off, it's gonna be a field day. We've got an awful lot of cleaning up to do in here. You can't help but get food around, and a few things like that, and we really feel the need to clean house tomorrow.

CC Roger, CDR, be advised based on the problems we're having over in Building 5, and on your conversation we had with you at the last site, we will not, repeat, not schedule the TV for tomorrow. We - I'm looking at the flight plan now that we'll be uplinking to you, and it's got an awful lot of, what we say is off-duty time, and like you say, I'm sure it'll be a field day up there, but that's the way we'll plan to go tomorrow.

CDR Okay, very good. Any word for us on our power. Are we going to be able to go back to doing EREPs? Have you guys got any story on that yet?

CC Pete, we're still analyzing the data. We believe we certainly will be able to go back and get some EREP passes, but we - they probably will be restricted, and we're - they're a lot of guys in the background arguing about the proper angles of EREP data pass, but we will be doing some more EREP.

CC Skylab, Houston. We're about one minute from LOS at Vanguard. Be advised that the next pass is a Hawaii pass at 02:21. It is a very short pass, and that will be your medical conference pass, and I bet you don't get it done there. We'll have one more pass this

evening, and we'll get it there, but Dr. Ross will be talking to you at Hawaii at 02:21.

CDR Roger, Dick.

PAO This is Skylab Control at 1:51 GMT. Skylab space station on its 251st revolution, will have its next AOS over Hawaii in approximately 29 minutes. This is Skylab Control at 1:52 GMT.

END OF TAPE

SL-II MC-367/1
Time: 21:19 CDT 08:02:19 GMT
5/31/73

PAO This is Skylab Control GMT 2 hours and 19 minutes. Skylab space station is passing on the outer limits of the Hawaii tracking range at this moment. We don't anticipate any air to ground. It's only a 57 second pass. The crew is well into their presleep activity check-list and getting ready to bed down for their seventh night in Skylab. This is Skylab Control at GMT 2 hours and 19 minutes.

PAO We will keep the line up and monitor in the event there is air to ground on this pass.

PAO Skylab Control at GMT 2 hours and 25 minutes. Obviously there was no air to ground on that pass. We will have a station pass at the Vanguard tracking station in 22 minutes from now. This is Skylab Control at GMT 2 hours and 25 minutes.

END OF TAPE

SL-IX MC-360/1
Time: 21:45 CDT 4:02:45 GMT
5/31/73

PAO This is Skylab Control, 2 hours and 45 minutes GMT. We expect we will have AOS over the Vanguard tracking station very shortly. And we will put the line up and wait for an air to ground between Capcom Dick Truly and the Skylab space station.

CC Skylab Houston. We're AOS at the Vanguard for the next 8 minutes.

CC Skylab Houston. We're AOS at the Vanguard for the next 7-1/2 minutes. And I'd like to speak to someone about the attitude control situation please.

PLT Okay, go ahead shoot.

CC Rog. At the last Hawaii pass, we reset the ACS malf light and also enabled rate gyro number 3, so we're going to keeping a good eye on number 3 as compared to 1 and 2. We do have a star tracker pad that we very much like to get up to you, and so we could get the star tracker locked on in order to get a Z axis reference. That's the good news. The bad news is that the star is not available until 03:45 zulu, which is about 45 minutes or an hour from now. And we are wondering if you guys are still going to be up because we made you stay up late anyway. And we'd like to read you this star tracker pad.

PLT We'll stay up, we'd love to stay up late. That will give us a chance to be mad at you tomorrow.

CC Okay. Okay, can I give you some numbers then?

CDR Go on.

CC Okay, the star Acamar inner gimbal is minus 0144 outer gimbal plus 0500. And I have a note about that, Joe. If you fail to acquire there, we'd like you then to try an outer gimbal of plus 0800 and if you still fail to acquire we'd like you to bracket it on the other side and try outer gimbal of plus 0200. And the first acquisition we think you can have possible is 0345 zulu.

SPT 3:45 and that gives us a warm feeling. We'll get her.

CC Outstanding. Okay, we're wondering if you've had a chance to try that fine sun sensor little malf procedure we read up a while ago and what the status was on that.

SPT Yeah, Dick, we're firing it up, went ahead and drove it. The left right was usual as we didn't have to refuel it. It reads 0, it was all right. However, in both directions the thing drove backwards. It commanded points to the left then it points to the right and up and down and also reverse. It went left right persisted even after it reads 0. Now in the up down, it would hang up

at minus 48 so we commanded down and then (garble) up, it would get out a couple of three hundred seconds. And from there would be counting oddly or it won't budge I didn't notice the size (garble) would jump up to 2300, whatever, anyway it wasn't working.

CC Roger, copy. Stand by 1.

SPT Okay, if it sounds confusing, it really was. The thing would stick on 48 until you were (garble) on driving off the lamanated and lap up to 2300 and something and start counting down. You'd say hey I've got it and you'd go back towards the center of the site and at 48 she'd freeze again.

END OF TAPE

SL-II MC-362/1
Time: 18:52 CDT 7:23:52 GMT
5/21/73

PAO This is Skylab Control at 23 hours 53 minutes GMT. Skylab space station is now passing over South Africa, the tip of South Africa, on a long LOS before the next station pass over Hawaii. It is presently on its 250th revolution with the Skylab crew is probably eating dinner at this time. The change of shift briefing with Flight Director Don Puddy, is now scheduled for 7:15, 7:15 central daylight time. This is Skylab Control at 23 hours 53 minutes GMT.

END OF TAPE

SL-II MC-363/1
Time: 19:32 CDT 8:00:32 GMT
5/31/73

PAO This is Skylab Control at 32 minutes GMT, 00 GMT. Flight Director, Don Puddy is in route to the News Room, and the change of shift briefing will begin at about 7:45. This is Skylab Control.

END OF TAPE

SL-II MC 364
Time: 19:38 CDT, 00:00:38 GMT
5/31/73

PAO This is Skylab Control at 00:37 minutes. GMT. We expect to acquire Skylab space station on a Hawaii pass, which will be about 10 minutes in duration. During this pass, it is anticipated the crew will discuss the days activities on their final lengthy pass over Hawaii this evening. We will take the line down and play back any air to ground at the close of the evening change of shift. This is Skylab Control, 00:38 minutes, GMT.

END OF TAPE

SL-II MC-365/1
Time: 20:34 CDT 8:01:34 GMT
5/31/73

PAO This is Skylab Control at 01:34 GMT. In two successive lengthy passes, one over Hawaii tracking station, and the secor over Vanguard, the crew and Capcom Richard Truly, discussed the possibility of tomorrow's TV through the scientific airlock. However, at the close of the Vangard pass, Capcom Dick Truly, told the crew that based on problems and procedures in Building 5, there will not, will not be any scheduled TV tomorrow to look at the solar wing of the orbital workshop. In other discussions in these 2 passes, the crew went over things of discussing things of possilbe fixture methods to the, the release of the orbital workshop panel. Among those things discussed was using a bone saw for one thing. Pilot, Paul Weitz said they would be hard pressed to use the saw to do it. On the Vangard pass, Science Pilot Joseph Kerwin reported a malfunction light in the rate gyros. The ground is presently looking at this problem, and we'll pass up a further information on Hawaii pass, which is now scheduled for 46 minutes from now. We have 15 minutes and 36 seconds of live air to ground. We'll put up this line now.

CC Skylab Houston. We're AOS at Hawaii for the next 10 minutes.

SC (garble)

CC And, one thing real quickly. Be advised we're going to be - you guys did that power down earlier today, and we're going to be doing, commencing here at this pass, powering up a few things by command. One of them is going to be primary coolant loop and so you expect caution and warning in primary coolant flaw. And next thing, for the guy at the ATM which I think is the SPT - - Hello there. We're configured at Hawaii to get an SUV monitored TV downlink, if you could give it to us this pass. And with that, go ahead.

SPT Okay, I'm going to sleep and I will monitor the caution light. It's the star tracker shudder started, or rather the shudder talk back started to operate rapidly here a while ago. And I tried everything, I could to stop it. Finally I just shut the power off on the thing.

CC What was the (garble) in when it was doing rapidly?

SPT The talkback was operating rapidly between barber pole and star, I guess. It was just click click, clicking and I couldn't stop it. If I went to manual and it wouldn't stop, I closed the door and it wouldn't stop it.

CC Roger Joe, copy and we will look at that.

SPT Thank you.

CC And CDR Houston. I'm not sure whether you guys are eating then or whether you have time this pass for the evening status report. Before you give us that, I'd like to ask you one question about this TV for tomorrow if you are listening.

CDR Go ahead.

CC Okay Pete, we've got some guys over in Building 5 that are pursuing how we would implement this TV at the minus C SAL to look at the SAS beam, and the further along they go and in some cases the more difficult the procedure gets, and it is basically a problem because of in order to get it, we were going to put the little 90 degree mirror on the front end of the TV camera, and that doesn't leave enough room in order to deploy it properly. However, we can continue to work on this. And I guess a question that we're interested in is the way I briefed it to you yesterday or the day before, was that we were interested in getting the hi fidelity TV, but the procedure is getting a little hairy. And I guess we were wondering in your opinion, whether or not the procedure would be worth going to or do you think you have enough information the other day on the fly around to in looking at it to answer the specific question, in your own mind and any ones that we may come up with.

CDR Second.

CC Okay.

CDR Okay Dick, I was just talking to Paul. The obvious thing that's holding it and the obvious thing that we couldn't get at. It is entirely possible there was enough meteoriod shield left to, just off the other side of it that we didn't see it neither would you see it with the television I don't believe. I don't think you'd have the resolution to tell, neither would the television about the strap. I think we could probably describe that (garble) in the question that no one (garble)

CC Okay, stand by just one please.

CC CDR Houston. One question that we'd like to add now and I'm not sure whether you've been asked this or not, but I think it is worth talking about. And that is, we're considering using the bone saw as a method of cutting through the strap. And one of the things we were interested in knowing, at least, was whether or not the bone saw could be, whether or not the strap that is causing the SAS beam to be held down can be gotten to with

the bone saw. We have already verified that the bone saw itself is quite adequate when handled properly in cutting through the angle iron. And if possible I understand we want to slip the bone saw underneath the strap, in other words between the strap and the SAS beam. Over.

CDR Are you talking about the (garble) saw Dick?

CC Say again please Paul?

PLT (garble) saw, survival cutter (garble) with a rigity edge on it right?

CC Yeah, the one with a ring at each end, and like little bity barbed wire in the middle.

PLT I think you'd be hard pressed, wait a minute, let me talk to Pete.

CC No, I don't think that's any good Dick.

CDR The only chance that we would have right now of getting that thing off is taking something like the pry bar in the MDA tool kit or up at the hatch end some of those hatch tools, which I haven't looked at recently. Then prying it off, because what it has done, is it has got it and whipped around so hard that it has got a couple of screw heads or something through that aluminum skin. And that's what is holding that strap on there. And that's why we couldn't just pull it off. And I have the feeling, (garble), that if you could get something underneath it to pry with, EVA, you could have one hand on the panel right next to it and putting underneath it to pry, I believe you could work that strap off there rather than cut it, because I don't think it is hard enough around the lower sides. There's nothing on the lower sides to hold it up. To hold up the gamble.

CC Okay Pete, frankly I think that helps us out and I'll be sure and get that input put in. And either way, it is real easy to take the tools required out there when we get to that. We still got about 3 minutes in this pass. Are you prepared on the evening status report here for this pass or should we wait til later.

CDR Let's wait til later.

CC Okay, if you have time, I've got a couple of more questions I would like to ask you and one of them is about power and kind of important to us.

CDR Okay, go ahead.

CC Okay, earlier today when you guys powered down, before the power down we were averaging about 4300 watts. And the way we planned the power down, we expected this to decrease at about 300 watts. However, after you finished the power down, we ended up at about 3700 - -

END OF TAPE

PLT - decrease it about 300 watts, however after you've finished the power down, we ended up at about 3700, which is a Delta of 600. So the question is, it looks like that an extra 300 watts came off the line somewhere around in there and do you have any explanation about what caused the power level to be lower than expected. Over.

CDR (garble) We was watching out for switches. We've been running absolutely minimum lights (garbled) we leave all the lights off in the experiment compartment when we're not down there, and we leave them all off up in the dome area, and we leave them off in the bedroom. We leave them off everywhere we can leave them off. There's one place I know. I can't think of anything else, though, specifically.

CC Okay, thank you, Pete. One more question and this is - the other day when you did the EREP pass, we have a question on the S192 ready light. It turns out when we - Well, let me ask you the question real simply. Did the S192 ready light come on at anytime during the pass?

CDR Okay. The light came on when it was supposed to.

CC Okay, real good. It just turned out twice we got a status from you and both times they were off, but at those times they were supposed to be off, and we just were wondering about the middle. Stand by 1 on the next pass, please.

CC Skylab, Houston. We're about 30 seconds from LOS. The primary coolant loop, be advised, looks good. We're gonna be seeing you the next pass down at the Vanguard. And that's going to be at about 01 after the hour. We'd like to go ahead and have the evening status report there. And delay the medical conference one pass, if that's okay with you.

CDR Okay, that's fine, Bill, we'll have it for you then. And be advised the high water tank was 92, and the low one was - what was it, 85- 85 and the information is on B Channel.

CC Thank you, Sir, see you at Vanguard.

CC Skylab, Houston. We're AOS at the Vanguard for 8 Minutes.

CDR Roger, Houston. The SPT has a problem for you to talk to you about. We're on 1-Z GYRO.

CC Roger, understand, and I'm standing by to listen.

SPT How's that, Pete?

CDR Go ahead.

SPT Okay, hey, Houston, about 5 minutes ago

we had RCS HALF and a cluster attitude light, which went on and then off. The RCS HALF is still on, but we have a single notation in the Z-GYRO, with the switch in the 13 position, indicating that's operating GYRO 1 only. The CDR reported significant TACS firings, which I missed. The RATES are low. The CMGs look good, and we wish you'd fix it for us. Over.

CC Well, we'll sure be looking at it.

SPT Okay.

CDR All right. Here's the evening status report for you. you ready.

CC Yes Sir. Go ahead.

CDR Okay. The - wait 1- everything went blank. Okay, the CDR ate everything today except for dinner he couldn't quite hack the green beans, so I dumped them. Otherwise, everything else was taken.

CC Roger.

CDR The SPT ate all his breakfast, item 25, salmon, he substituted for peanut and jam - peanut butter and jam, because (garble). And he ate all his dinner, except the catsup, which was spoiled, and he will eat all his snacks except apricots.

CC Roger.

CDR The PLT ate everything up to dinner. He did not eat his bread and his snack, item 62, he only drank half his coffee.

CC Roger.

CDR And the photo log Day 161. 16 millimeter M-4874 Alpha, CI 01 07, CI 02. Next line 48 74 Bravo, we will shoot up that magazine on it tonight. CIO 1, 00, CIO 2. On 35 millimeter CI 26, the frame count is now 27. The Hasselblad status, and we'll have to get some more information to you on the number on that one right now. But CS04 magazine was no good. It had the red indicator, and we couldn't make it run in the other camera, and so we took the fuse out of the other camera and put it in HDC02 which now has CS05 on it. And I have a question. Do we have any spare Hassleblad fuses? I know we have DAC fuses, and we could find no Hasselblad fuses looking in the stowage book.

CC We'll get you an answer on that, Pete. Go ahead.

CDR Okay, I don't think we had any flight plan deviations that you don't know about. Stowage item changes, none that aren't on B channel. Inoperable equipment, none that you don't know about. And the one thing that we have yet to be able to find is the purported changes in salt for or menus and we've looked around and looked

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CDR Okay, well, we can make a slug if we need one.

CC Rog.

CDR (garble)

CC Stand by, please.

CC Skylab, Houston, be advised, we're powering up RATE GYRO 3 by command. We're gonna let it spin up, and we will not be enabling that GYRO until Hawaii. And to let it warm up, and I did not get the last transmission. It was very short, if it was important.

CDR I just said that was it over to you.

CC Okay.

CDR I - I would like to add one thing, Dick, I think tomorrow, rather than be a day off, it's gonna be a field day. We've got an awful lot of cleaning up to do in here. You can't help but get food around, and a few things like that, and we really feel the need to clean house tomorrow.

CC Roger, CDR, be advised based on the problems we're having over in Building 5, and on your conversation we had with you at the last site, we will not, repeat, not schedule the TV for tomorrow. We - I'm looking at the flight plan now that we'll be uplinking to you, and it's got an awful lot of, what we say is off-duty time, and like you say, I'm sure it'll be a field day up there, but that's the way we'll plan to go tomorrow.

CDR Okay, very good. Any word for us on our power. Are we going to be able to go back to doing EREPs? Have you guys got any story on that yet?

CC Pete, we're still analyzing the data. We believe we certainly will be able to go back and get some EREP passes, but we - they probably will be restricted, and we're - they're a lot of guys in the background arguing about the proper angles of EREP data pass, but we will be doing some more EREP.

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evening, and we'll get it there, but Dr. Ross will be talking to you at Hawaii at 02:21.

CDR Roger, Dick.

PAO This is Skylab Control at 1:51 GMT. Skylab space station on its 251st revolution, will have its next AOS over Hawaii in approximately 29 minutes. This is Skylab Control at 1:52 GMT.

END OF TAPE

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5/31/73

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PLT We'll stay up, we'd love to stay up late. That will give us a chance to be mad at you tomorrow.

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CDR Go on.

CC Okay, the star Acamar inner gimbal is minus 0144 outer gimbal plus 0500. And I have a note about that, Joe. If you fail to acquire there, we'd like you then to try an outer gimbal of plus 0800 and if you still fail to acquire we'd like you to bracket it on the other side and try outer gimbal of plus 0200. And the first acquisition we think you can have possible is 0345 zulu.

SPT 3:45 and that gives us a warm feeling. We'll get her.

CC Outstanding. Okay, we're wondering if you've had a chance to try that fine Sun sensor little malf procedure we read up a while ago and what the status was on that.

SPT Yeah, Dick, we're firing it up, went ahead and drove it. The left right was usual as we didn't have to refuel it. It reads 0, it was all right. However, in both directions the thing drove backwards. It commanded points to the left then it points to the right and up and down and also reverse It went left right persisted even after it reads 0. Now in the up down, it would hang up

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CC — Roger, copy. Stand by 1.

SPT — Okay, if it sounds confusing, it really was. The thing would stick on 48 until you were (garble) on driving off the lamanated and lap up to 2300 and something and start counting down. You'd say hey I've got it and you'd go back towards the center of the site and at 48 she'd freeze again.

END OF TAPE

SPT (garble) they're coming down.
CDR Hey, I got it.
SPT Then you'd go back towards the center of the Sun, and at 48 you'd freeze again.
CC Roger, we copied that. Also one more official note for this pass. We're - As I told you a while ago, we're - we did our commanding up from the ground to power up a couple of things and there are some switches that we would like you to power up, now that the last ATM attended pass is over. One is on Panel 614, 4 circuit breakers for the DUCT 1 FANS, we'd like them CLOSED, and also Panel 203, AIRLOCK MODULE FANS, CIRCULATION 1, 2, and 3 switches, 3 of them to HIGH. And they'll stay that way all night.
CDR Okay, we got that, Dick.
CC Okay.
CDR (Garbled).
CC Say again, please.
PLT John, I think the old heap is very gradually cooling off. It's getting more comfortable. Joe and I were down here this morning when you turned down - when we turned the DUCT 1 FANS OFF. I don't know if it's in our heads or not, but we found it got a little stuffy for awhile, but we soon acclimated to that. Now, if you got all the circ fans and the duct fans running tonight, I bet we make another degree or two tonight.
CC Well, let's sure hope so.
PLT Say, Dick. Awhile ago we asked for the coordinates for the pyramids, which we haven't got yet, which doesn't really matter, but tomorrow's our day off. And also, how about, without looking here, and if it's not too much trouble I'm certain you got the information somewhere, and I'd also like the coordinates of Mount Kilimanjaro if you can find them.
CC Roger. Copy.
CC Skylab, Houston. We're about a minute and a half from LOS at Vanguard. As long as you all are going to stay up. Your choice. We are going to have a pass coming up very shortly at Ascension at 03:02 and I'll call you there, if you'd like. Otherwise we'll see you in the morning. You might - one note of interest that I - Day before yesterday at the South Bay Memorial Hospital in Los Angeles. Jerry T. Morton, III was borned and his Mamma is doing real fine, and Jerry is very proud.
PLT That's good. I wonder if he's a turtle.
CC I'm sure he's a future one and a fighter pilot.

PLT That's good. Yes, we'll be looking forward to hearing your sweet voice at 03:02, Dick, besides the CDR's peddling a bicycle. Nobody else can get to sleep anyway.

CC Roger that.

PAO This is Skylab Control. GMT 2 hours 58 minutes. We have a report from Dr. Charles Royce, Skylab Flight Surgeon on a recent conversation with the crew. "The Skylab crew remains in good physical condition, and are anticipating their day off tomorrow. No medical problems have arisen during the medical experiments to date. Tomorrow the Science Pilot, Dr. Joseph Kerwin, may find time to fully activate the in flight medical support system." This concludes a statement by Dr. Charles Royce, Skylab Flight Surgeon following a private medical conversation with the crew earlier this evening. We have LOS at present time. We will pick up AOS at Ascension at approximately 2 minutes and 15 seconds from now.

END OF TAPE

SL-II MC-370/1
Time: 22:06 CDT 8:03:06 GMT
3/31/73

PAO This is Skylab Control, GMT 3 hours 6 minutes. We have acquisition at Ascention tracking station we will pick up the air to ground.

PLT We'd like to hear from you again.

CC Hello there. The only note I have is in between passes the (garble) told me that the exact time on that star tracker when the computer will let you lock on is about 3:48, so just be patient right around that time, we ought to get a good lock and ya'll can go to bed and we'll be all set for the night.

SPT Okay, good enough.

PLT Say Dick, maybe you guys down there expected it and we've been forgetting to tell you for a couple of three days. On the ATM, it says colored on one side. You notice if we look out the SPS window towards the wide side of the vehicle I think it is , yeah, towards the minus Y side of the vehicle that side of the ATM is turning yellow and it darkens a little bit. Then you look out the other side, out the plus Y side and it looks like it just came out of the factory it is nice and spanky clean white.

CC Roger here, copy.

CC Skylab, Houston. We're about 45 seconds from LOS here at Ascension, last pass of the day. So you guys have a very good night sleep and everybody say good night, Dick.

PLT Okay you say it y'all down there.

CC Rog.

CDR Hey Dickie add 1500 watts to the old (garble) I just finished that.

SPT Good night Dick.

CC Rog, all that. Good night.

CDR Hey also for PLT, I forgot (garble)

CC Rog.

CDR We're all shaved and we're leaving for the party so don't be surprised if you see (garble)

CC Okay, me too as a matter of fact.

CDR (garble) idea there old buddy.

CC Thank you.

PAO This is SKylab Control at GMT 3 hours and [illegible] minutes. As you heard, Commander Conrad bid good night to the ground and astronaut, Capcom Richard Truly said good night. This concludes the crews 7th day in Skylab. A day which saw scientific and medical experiments performed. ATM experiments and several medical experiments were performed throughout the day. It was a day where Commander Conrad discussed with the ground the type flight

planning schedule. He also advised the ground how he thought the orbital workshop solar array panels might be freed in a possible future EVA. Commander Conrad told the ground that their day off tomorrow, their first day off in space, will have them doing a lot of housecleaning, putting things away and such. The problem today again persists as in the past was the power problem. Two of the 18 CBRMs, charger battery regulator module of which there are 18 on board, which provide the power from the solar array into the onboard batteries. Two of these CBRMs are off line. The ground is still looking at this problem and we'll continue to look at it throughout the night. Their first day off in space, tomorrow, Friday, the crew is scheduled to have another first in space, a shower, a hot shower. Each of the crew members is scheduled a time block of approximately 55 minutes during which time, they will have a hot shower. This concludes the Public Affairs reports from Mission Control Center at GMT 3 hours and 15 minutes. The next report will be at 0600 central daylight time, Friday morning. Again this concludes the Public Affairs announcements from the Mission Control Center. This is Skylab Control at GMT 3 hours and 15 minutes.

END OF TAPE

SL-II MC-371/1
Time: 22:46 CDT 08:03:48 GMT
5/31/73

PAO This is Skylab Control at GMT 3 hours and 46 minutes. We anticipate acquisition by the Guam tracking station on this pass, which may last 7 minutes in duration.

PAO This is Skylab Control, GMT 3 hours and 56 minutes. Indications are the crew has began their - has begun their sleep period for the seventh night in the Skylab space station. Their eighth day will begin on schedule at 6:00 a. m. central daylight time, Friday morning. As the crew settled down for the night, temperatures in the wardroom - the wardroom ceiling were registering 80 degrees Fahrenheit, on the wardroom wall 81 degrees Fahrenheit, and the sleep compartment ceiling was 82 degrees Fahrenheit. Tomorrow the crew has a scheduled day off. Included in their flight plan for tomorrow will be the first in space - the crew is scheduled - each crew member is scheduled to take a hot shower Friday afternoon. A block of 55 minutes is alloted 'or each man for this shower. As the spacecraft nears completion of its 252nd revolution as it crosses down the southwest Pacific, this is Skylab Control at GMT 3 hours 58 minutes. The next announcement will be at 6:00 a. m. central daylight time. There is a scheduled change of shift briefing in the Building 1 news room Friday morning at 8:00 with Mel Brooks, Flight Operations Management Room Manager. Mel Brooks of the FOMR at 8:00 a. m. Friday in the Building 1 news room. Again this concludes the final report from Skylab Control at GMT 3 hours 59 minutes.

END OF TAPE